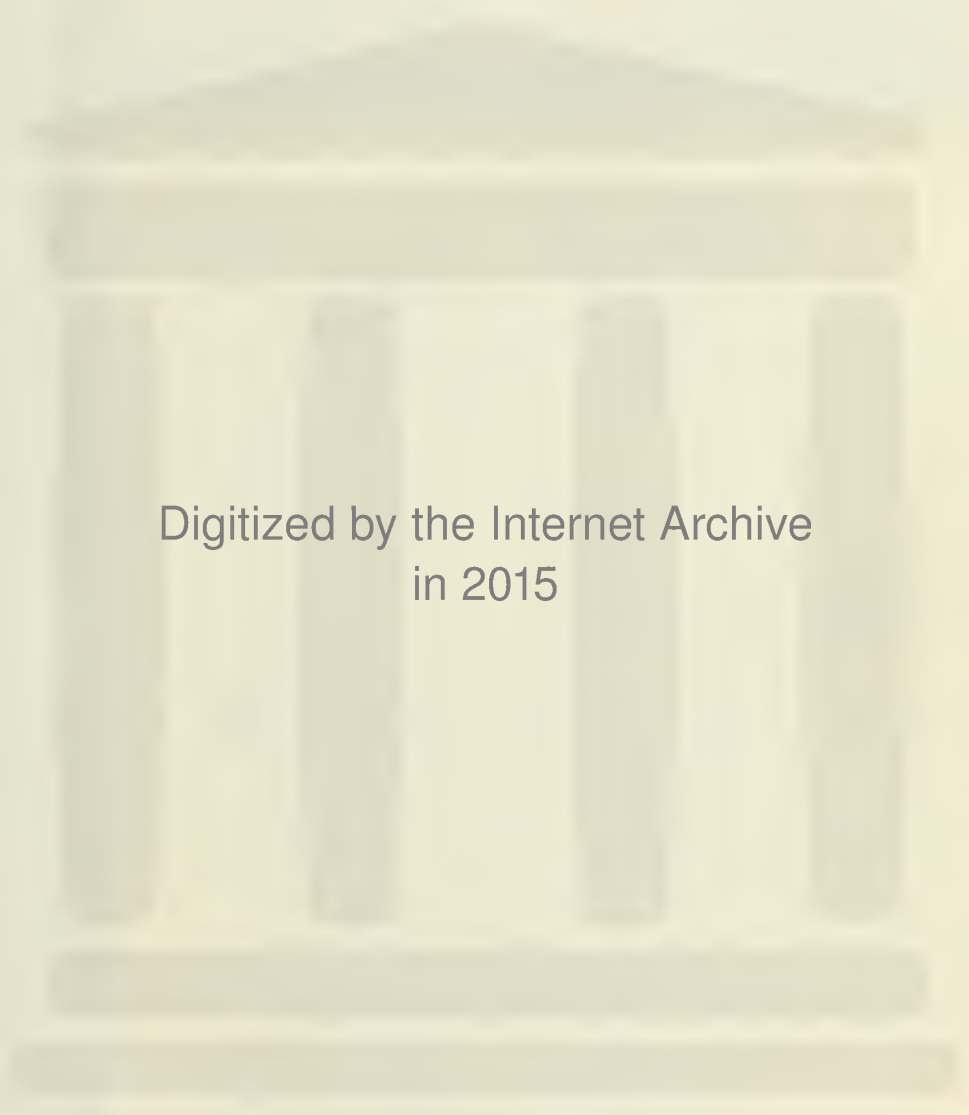


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Number 1

Newer Drug Treatment in Dermatology

REES B. REES, M.D., JAMES H. BENNETT, M.D.,
and MAX R. GREENLEE, M.D., San Francisco

IN SEEKING FOR and employing new drugs one must constantly ask if a particular new drug will be better for the patient than older treatment. Medicine is practiced on the basis of probabilities, and the physician therefore chooses that technique which in his opinion offers the best chance of success with each patient and set of circumstances.¹³ The future of a drug depends on what it can do in the hands of the general physician and not what it should do on the basis of experiments.¹

Traditionally, drug therapy in dermatology is divided into two chief groups, topical and systemic. Topical therapy in turn may be considered basically in terms of three stages or categories: the wet dressing for acute weeping eruptions, the nongreasy shake lotion for subacute disturbances, and finally the whole gamut of topical remedies for chronic dermatoses. Systemic medication, in contrast, corresponds to principles that apply throughout medicine.

TOPICAL THERAPY

The principle of a cool wet dressing has not been supplanted for the management of acute weeping, vesicular eruptions. Such a dressing brings benefit by cooling from evaporation, thereby decongesting inflamed tissues and permitting inflammation to

• This article deals with a number of newer drugs now being employed in dermatology. The great beneficial role of corticoids both topically and systematically for various inflammatory dermatoses is now amply proved. The addition of a corticoid to a conventional acne lotion renders it much more effective. Nystatin for monilial infections is especially effective in a powder form. For systemic use Griseovulvin, now becoming available, is the most interesting current development in dermatology. Presumably, it is highly effective against ringworm of the hair, nails and skin. The role of synthetic antimalarials in treating chronic discoid lupus erythematosus and light sensitivity eruptions also is firmly established.

subside. No particular wet dressing is superior to another except for special situations, such as the presence of infection.¹¹

The basic formulations of the shake lotion have not changed. Commercial preparations are becoming available which may be more elegant cosmetically or more effective medicinally or have special antipruritic, antibacterial or antimycotic values. Nevertheless, here again as with the wet dressing it is the principle rather than the specific medication that counts. The ease of application of a shake lotion to widespread or extensive eruptions and the tendency of the lotion to dry and leave a clean powdery residue provide an advantage over many different ointments, creams, lotions, tinctures and powders.

The real advances in topical therapy have been

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in the direction of better management of bacterial and mycotic disease and also in anti-inflammatory effect.

NEWER TOPICAL CORTICOSTEROIDS

Topical corticosteroids have the advantage of being efficacious, clean and nonirritating, incapable of inducing allergic reactions *per se*, stable and, except for fludrocortisone, free of systemic effect.¹⁶ Currently there are about a hundred topical corticosteroid preparations available commercially. The question arises as to whether one topical corticosteroid is more effective than another or whether one might look upon hydrocortisone as a prototype and employ it in all indicated situations.

We recently had occasion to assay topically several newer analogs of cortisone. Three hundred and five patients with inflammatory dermatosis of various types were treated with 0.1 per cent triamcinolone acetonide, 0.25 and 0.5 per cent prednisolone trimethyl acetate cream, 0.1 per cent methylprednisolone cream and 0.1 per cent fludrocortisone ointment. Forty-one of 60 patients treated with triamcinolone acetonide cream had a good to excellent response. Twenty of these patients had better response with triamcinolone cream than with 1 per cent hydrocortisone cream, 13 did about as well, and three patients complained of irritation. With prednisolone trimethyl acetate cream over half of 87 patients did well and 19 patients in this group had a better response than with 0.5 per cent hydrocortisone cream. Thirteen patients responded equally well to these two products and one seemed to be irritated by the prednisolone trimethyl acetate. Methylprednisolone cream provided good to excellent relief to 19 of 58 patients, 25 of these patients doing better with it than with 0.5 per cent hydrocortisone and only five patients having a superior effect with the latter preparation. Nine patients did as well with one as with the other and two felt that they were irritated by the methylprednisolone cream. Fludrocortisone 0.1 per cent ointment gave good to excellent relief to 50 of 100 patients. Although none of these preparations had superiority in all patients and all kinds of dermatosis, one or another of them may be helpful in a proportion of patients who have not responded satisfactorily to hydrocortisone.

One may add tar to a topical corticosteroid preparation for the treatment of atopic dermatitis, various eczemas and seborrheic dermatitis and one may add iodochlorhydroxyquin USP for the management of nummular eczema. Relative contraindications to the topical use of fludrocortisone include renal and heart disease because of its absorption and systemic effect; and there is relative contraindication to the topical use of corticosteroids in the treatment

of thermal burns and herpes simplex, especially of the eye, and perhaps in treatment of pyoderma because of some tendency of corticosteroids to allow infections to spread. The optimal concentrations for topical corticosteroids would appear to be between 1 and 2.5 per cent of hydrocortisone, 0.1 to 0.25 per cent fludrocortisone, 0.5 per cent of hydrocortamate, and 0.1 to 1 per cent prednisolone. With triamcinolone and methylprednisolone, 0.1 per cent appears to be a satisfactory concentration, and 0.025 per cent has been proposed for oxytone. Hydrocortisone alcohol and the free ester appear to be equal in effect.

The intralesional injection of hydrocortisone acetate suspension has seemed to be of some possible benefit in the treatment of lichen simplex chronicus (localized neurodermatitis), alopecia areata, acneiform cysts, hypertrophic lichen planus, certain resistant plaques of psoriasis or an occasional synovial cyst of a terminal finger joint and localized overgrowths such as ear corns, callosities and clavae.

Topical Treatment of Acne

Cort Acne lotion (Dermik®) is an advance in the topical management of acne.¹⁹ It contains hydrocortisone 0.25 per cent, N'sulfanylacetamide 8.5 per cent, resorcin 2 per cent and colloidal sulphur 5 per cent. About a hundred persons were treated by us with this preparation and two out of three had good to excellent improvement. The use of an abrasive paste containing aluminum particles has recently been advocated.¹² This is available commercially as Brasivol® (Stiefel).

Antifungal Treatment

The best advance in the topical treatment of fungus infection has been the development of nystatin, an antibiotic which is effective against *Candida albicans* infections (moniliasis). This product is available as Mycostatin® (Squibb) in the form of oral tablets, vaginal inserts, ointment, cream and powder. For most mucocutaneous monilial infections, the dusting powder containing 100,000 units per gram of nystatin marketed in a 15 gram plastic insufflator, is the most useful. In our experience with approximately 30 patients this has succeeded in controlling the eruption in three out of four patients within two weeks.

Antibacterial Agents

Topical antibiotics effective against bacterial infections are too numerous to detail here. Penicillin and streptomycin probably should not be used topically because of their high sensitizing potential and this proscription applies to a lesser extent to chloramphenicol cream also. Neomycin has been claimed to be capable of inducing cutaneous sensitization,

but this must be uncommon. Practically all the topical antibiotics with the exception of those mentioned above may be used with very little regard for possible sensitization. For the sake of a wide spectrum of usefulness, combinations such as neomycin, bacitracin and polymyxin appear to have special advantage. While it is true that authorities have inveighed against the simultaneous use of more than one antibiotic,⁶ their proscription would appear to be directed toward the systemic use of such compounds. It has been pointed out that while topical antibiotic therapy may lead to the emergence of resistant staphylococci, this fact is seldom a complicating factor in the management of cutaneous pyogenic infections.⁹

Antiviral Agents

Unfortunately no new agents for the management of virus diseases have been proposed that are specific in their action. The topical use of 1:100 epinephrine for recurrent herpes simplex has been suggested.¹⁷

Antiseborrheic Remedies

Abnormal sebaceous states are extremely common. The causes are not well understood. Several newer remedies which are more efficient and cosmetically acceptable are available for the treatment of these conditions, particularly for seborrheic dermatitis of the scalp.¹⁵ For the most part they do avoid undesirable color, odor and messiness, although, since most of them contain sulphur, there may be some disagreeable odor. The preparation in this category which has gained the widest acceptance is a metallic compound containing selenium sulfide (Selsun,[®] Abbott). This is rather consistently effective but has been suspected of causing diffuse hair loss, conjunctivitis and increased oiliness of the scalp. Another preparation contains 1 per cent cadmium sulfide (Capsebion[®]). This also contains a hair conditioner and a scent in a detergent base. It is considered to be nontoxic for animals and humans, with no ill effect from percutaneous absorption; and it does not stain hair or skin. Another preparation is one containing soapless cleaners, wetting agents, hexachlorophene, sulphur and salicylic acid (Fostex,[®] Westwood). About two-thirds of 183 patients with seborrhea, seborrheic dermatitis and/or acne were either cured or were considerably improved with Fostex.

Miscellaneous Topical Agents

The revolutionary role of newer lousicides and scabicides has already been described adequately. Chief among them is chlorophenothane USP (DDT) 10 per cent in a dusting powder for head, body and pubic lice, and gamma benzene hexachloride

USP (Gammexane[®] of Kwell[®]) for scabies. Similarly, the use of absorbable gelatin sponge USP (Gelfoam powder) has been firmly established as a useful agent in the treatment of leg ulcers, bed sores and bleeding infected wounds, particularly in conjunction with topical antibiotic powders.

Systemic Therapy

Griseofulvin. This drug, which offers the greatest promise among the most recent drugs for systemic use in therapy of cutaneous disease, is an oral antibiotic, to be available in 0.25 gram tablets, derived from several strains of *Penicillium*. As reported by Blank and Roth² in a masterful although short term study, it is effective against disease caused by all three genera of dermatophytes, including hitherto unresponsive tinea capitis, onychomycosis and intractable trichophyton rubrum infections of the body. Apparently 1 gm. daily for the average-sized adult, given over a period of a few weeks, cures most infections. The drug is fungistatic only, and is not practical for parenteral use because of a colchicine-like effect in such circumstances. Tolerance to the oral use of it apparently is enormous. Nothing is known yet about possible recurrence rates, emergence of drug-resistant strains of organisms or delayed toxicity. Unfortunately the drug is ineffective against the intermediate and deep fungi.

Nystatin is now firmly established as the drug of choice against intermediate fungal infections (moniliasis), although, because of its poor absorption, oral administration appears to offer no great advantage over topical forms of application (except for possible prophylactic value when combined with oral broad-spectrum antibiotics.)

Amphotericin B (Fungizone,[®] Squibb) completes the triumvirate of the great new antifungal agents. Its value has been proved in treatment of patients seriously ill with deep fungal infections such as blastomycosis, actinomycosis, coccidioidomycosis, histoplasmosis and cryptococcosis. The drug is given daily intravenously in 500 cc. of 5 per cent dextrose solution—50 mg. per day as an average dose for a total dose of perhaps 1 to 2 gm. It has a primary toxic effect on the kidneys and may induce nausea and fever. Recent reports raise the hope that the drug may be effective orally in some cases. Local instillation of amphotericin B has proved of value in chromoblastomycosis.³

Diodoquin. In a classic study on acrodermatitis enteropathica, a rare disease of infants and children, associated with moniliasis of the small intestine, diodoquin by mouth, 0.66 gm. three times a day, has been shown to be safe and effective.⁴

Long term morbidstatic effects of certain antibiotics and corticosteroids in low dosage have

proved to be worthwhile and remarkably safe in the experience of Sulzberger.¹⁸ One capsule (250 mg. a day) of tetracycline or related drug may be morbidistatic (controlling) in certain cases of pustular acne, recurrent furunculosis and chronic abscesses of the axillae and groins (hidrenitis suppurativa). The development of toxic granules in leukocytes was the only untoward effect noted, in some cases. Emergence of resistant strains of staphylococci in cases in which treatment is done outside of hospitals has not been a problem. Similarly, long term control of severe atopic dermatitis and other semi-disabling chronic pruritic dermatosis may be maintained in many instances with as little as one or two tablets daily of a corticosteroid, taken by mouth daily for months or years if necessary, with no great ill-effect.

Newer Corticosteroids

Aside from avoidance of interference with salt metabolism, it is questionable whether newer corticosteroids accomplish more than older prototypes in separating beneficial effects from undesirable physiologic effect.⁵ However, there is a definite possibility that triamcinolone and methylprednisolone (and perhaps dexamethasone) have a particular aptitude for control of skin conditions. In this respect, it has been reported that triamcinolone may be especially valuable in the treatment of psoriasis.¹⁴

In our own experience, in assaying these compounds orally in the management of certain examples of recalcitrant pruritic dermatoses (that is, atopic dermatitis, nummular eczema, stasis dermatitis with autoeczematization), best results were obtained with methylprednisolone, 24 of 33 patients having good to excellent improvement; next best with triamcinolone (30 of 44 patients improved), and least with dexamethasone (30 of 59 patients improved). In a control group treated with prednisolone, 5 mg., and hydroxyzine hydrochloride (Atarax®) 10 mg., 43 of 74 patients obtained good to excellent relief. Dosage in each case, for the sake of uniformity and safety, was two tablets a day (individual tablets were 4 mg. each for methylprednisolone and triamcinolone, and 0.75 mg. for dexamethasone). Toxic effects were most noticeable with dexamethasone, two patients developing supraclavicular fat pads and a sensation of epigastric fullness, and two having symptoms of ulcer pains. They were a little less pronounced with triamcinolone (weight loss in five patients, moon face in one, mental depression in one, muscle weakness in two, headaches in two and insomnia in one). Methylprednisolone was best tolerated, the sole ill effect being peptic ulcer-like pains in one patient. By contrast, the control group treated with the prednisolone-

Atarax combination included two patients with weight gain, two with accentuation of itching.

Triquin has just become available commercially as the newest of the synthetic antimalarial compounds. It is really a combination of three, each component being present in one-fourth the usual amount of each, thereby reducing toxicity but not losing effectiveness, owing to additive effect. Chloroquin phosphate 65 mg., hydroxychloroquin sulfate 50 mg. and quinacrine hydrochloride 25 mg. make up the tablet. We have obtained the following results over the past two-year period, the average dose being two tablets orally each day for weeks or months. Of 24 patients with chronic discoid lupus erythematosus, 16 obtained good to excellent improvement. The only complaints were of headache and diarrhea (one patient), temporary gastritis (one patient), bitterness of the tablets (one patient). In general, responses were not greatly superior to those obtained with each component separately (in larger customary dosage) or with amadioquin, but the lessened incidence of ill effects appears to make triquin the drug of choice. Of 47 patients having polymorphous light-sensitivity eruptions, 39 responded very well with two tablets per day.

Injectable penicillinase (Neutrapen,® Schenlabs). One intramuscular injection of 300,000 units may keep the blood clear of penicillin for four or five days, and may be therefore of value in the treatment of urticaria, reactions of serum-sickness type and possibly other reactions in penicillin-sensitive patients.¹⁰ It may, however, cause local pain, rash and fever; and the clinical response may be delayed one to four days because of residual traces of penicillin in the tissues. Penicillinase is a protein (an enzyme), and probably is capable of inducing sensitivities of its own.

Methoxalen (8-methoxy psoralen) for vitiligo. We share the view expressed by Elliott,⁷ to the effect that one must carefully select patients for this treatment from the point of view of whether the disease is emotionally or economically crippling, because response is often incomplete and temporary, or cosmetically disagreeable in intermediate stages of treatment. The erythematous and carcinogenic response in psoralen-treated mice⁸ suggests the need for long-term observations in man.

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Cardiac Operations with Extracorporeal Circulation

JEROME HAROLD KAY, M.D., ROBERT M. ANDERSON, M.D., REUBEN R. LEWIS, M.D.,
JOHN MEIHAUS, M.D., OSCAR MAGIDSON, M.D., EDWARD N. SNYDER, M.D.,
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THE FOLLOWING REPORT is on the first fifty consecutive cases in which the Kay-Anderson heart-lung machine and the autoclavable stationary screen oxygenator* were used during operations for correction of ventricular septal defect, tetralogy of Fallot and other congenital and acquired lesions. This apparatus is capable of oxygenating and pumping 5 liters of blood per minute. The first patient on whom the autoclavable stationary screen oxygenator was used was operated upon December 12, 1957.

The technique used for all these patients was as follows:

Anesthesia was shallow and was so managed that the patient was awake at the end of the procedure. Wherever feasible hypnosis was used for induction and the only preoperative medication (two cases) was a small amount of scopolamine.

The anesthetic agents used were cyclopropane for the first few minutes, followed by nitrous oxide and oxygen after endotracheal intubation. For muscle relaxation, succinylcholine was used throughout the operation until the bypass was completed. Advantage was taken of the hypothermia that developed during by-pass to maintain amnesic analgesia: Neither the blood nor the patient was warmed during the period of extracorporeal circulation, and when the procedure was completed the patient rewarmed spontaneously. During the by-pass stage a mixture of helium and oxygen in a ratio of 60:40 was used to gently inflate the lungs. After the by-pass, manual ventilation was resumed with oxygen or with a half and half mixture of nitrous oxide and oxygen.

Operation

In the early cases in the series, bilateral anterior thoracotomy through the fourth intercostal space was used. Later, median sternotomy was found to be more satisfactory in that respiratory distress was less with it and postoperative complications were fewer. Also the incision caused less pain and it had the added advantage that only one pleural space had

• In a series of 50 patients for whom a heart-lung machine was used for periods as long as 70 minutes during operations to correct structural defects of the heart, there were no deaths attributable to the machine. Seven patients died. Two of them had high pressure ventricular septal defects with bidirectional shunts; a third patient with the same lesion recovered after repair. One patient died of cardiac tamponade when a large blood clot formed about the entire heart in a loosely closed pericardial sac. Others died of various causes. The development of subacute bacterial endocarditis in one patient led to a change in sterilization of apparatus.

to be entered. After the incision is made the pleural space is opened so that when the pericardial sac is opened it can drain into the space. This is done to avoid cardiac tamponade or collection of blood in the mediastinum. While one surgeon is opening the chest, others isolate the femoral vessels beneath Poupart's ligament. The patient is given 3 mg. of heparin per kilogram of body weight, and a catheter is inserted into the left femoral artery and on into the aorta for measuring pressures. A larger catheter is inserted into the right femoral artery to return blood from the heart-lung machine to the patient. A Rummel tourniquet is placed around the base of the right atrial appendage, and the tip of the appendage is incised. The atrial septum is palpated for any evidence of a defect. The superior and inferior vena cavae are then cannulated through the incision in the atrial appendage, the cardiopulmonary by-pass is put into operation and the necessary intracardiac procedures are performed. When it is completed, extracorporeal circulation is stopped, the cannulae are removed from the vessels and cavae and all the incisions are closed.

RESULTS OF OPERATIONS

Five patients with atrial septal defects were operated upon and complete repair of the defect was achieved in all of them. One patient died of subacute bacterial endocarditis four weeks after operation. The infecting organism was hemolytic staphylococcus aureus, coagulase positive. The source of infection was believed to be a Satham gauge which had been stored in benzalkonium chloride solution (Zephiran®) for sterilization. Thereafter a 10 per

From the Cardiovascular Research Laboratory, the Department of Surgery and Department of Medicine at the University of Southern California School of Medicine, the Departments of Surgery of the Los Angeles County General Hospital and St. Vincent's Hospital. Aided by a grant from the American Heart Association.

Submitted January 5, 1959.

*The apparatus, which was constructed by Corco, Inc., 10418 Venice Building, Los Angeles 34, has already been completely described.¹

cent formaldehyde solution was used for the purpose. The heart-lung machine is sterilized by autoclaving.

Two patients had pulmonary stenosis and atrial septal defects. The lesions were completely corrected and both patients survived and did well.

One patient had *atrioventricularis communis*. Both the mitral insufficiency and the atrial septal defect were corrected and the patient did well.

Twenty-three patients were operated upon for ventricular septal defects. Most of them had elevated pressure in the pulmonary artery and the right ventricle, with symptoms. In some cases the pressure was as high as 90 mm. of mercury in the right ventricle. Two patients in this group died, one of them 36 hours after operation owing to formation of a large clot of blood surrounding the entire heart, the pericardial sac having been intentionally closed loosely. Loose closure is no longer practiced but instead the pericardial sac is widely left open. The patient was the fourth one operated upon in the series. The other death occurred in the immediately postoperative period. The patient had been in congestive failure, which was thought to be the primary cause of death.

Three patients with ventricular septal defects and pulmonary hypertension were operated upon. In these patients the pressure in the pulmonary artery was equal to that in the aorta and there was a bidirectional shunt. Two of them died, one at the time of the operative procedure when the heart did not resume a good beat after closure of the defect, and the other of respiratory insufficiency 36 hours after operation. The remaining patient at last report was living and well, with the defect closed. It is our impression that the disease entity of pulmonary hypertension with bidirectional shunts is not the same as the usual ventricular septal defect. It is probably due to essential pulmonary hypertension, with ventricular septal defect a concomitant rather than a causative factor.

Operation for the correction of mitral stenosis and mitral insufficiency was done in two cases. One patient died, owing to an inadvertent tear in the common iliac artery during the threading of the

catheter for perfusion into the aorta. This necessitated an extensive retroperitoneal dissection, and postoperatively the patient bled a great deal from the retroperitoneal area.

Eleven patients with the tetralogy of Fallot were operated upon. All had ventricular septal defect, overriding of the aorta, pulmonary stenosis and right ventricular hypertrophy. In eight of these patients the pulmonary stenosis was of the infundibular type. In three it was valvular. The defects were corrected in ten cases, the repair consisting of closure of the ventricular septal defect, correction of the overriding of the aorta and either pulmonary valvotomy or resection of the infundibular stenosis. One of the 11 patients died, nine were restored to a perfectly normal existence and one was still recovering from operation at the time of this report.

One patient, 47 years of age, had aortic valvotomy for repair of acquired aortic stenosis. The duration of cardiopulmonary by-pass was 45 minutes and the heart was completely stopped for a half hour. The patient recovered promptly and returned to work.

One patient, a 38-year-old woman, had a large mass in the left atrium owing to a sinus of Valsalva fistula rupturing into the left atrial wall where aneurysmal dilatation developed and then ruptured into the left atrium. During repair of this defect, extracorporeal circulation and oxygenation was maintained for an hour and ten minutes. The patient recovered promptly.

In the case of a 23-year-old woman with infundibular stenosis, the pressure in the right ventricle was 220 mm. of mercury. Operation with the Brock technique three years previously had been unsuccessful. With use of the heart-lung machine the lesion was resected. Thereafter the patient felt well.

ADDENDUM: The heart-lung machine has now been used in 120 cases and the results have been essentially the same as in the first 50.

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Tuberculosis

Recent Trends in Infection, Disease and Deaths in California

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MAJOR LONG TERM TRENDS in the prevalence, morbidity and mortality of tuberculosis may be obscured by transitory, sporadic or cyclical variations or by special circumstances that are widely aberrant from the general situation. Many misconceptions regarding tuberculosis have arisen from insufficient, unreliable or nonrepresentative data or from superficial, biased or fanciful interpretations. Many mistakes might be obviated by critical care in the collection, tabulation and analysis of the original information and by the comparison of the results of any statistical study with those obtained by different methods or by the application of similar methods to different data.

INFECTION

The following conclusions appear consistent with the available evidence. Tuberculosis has existed since pre-historic times, both in animals and in man.¹⁶ It has affected nearly every people in the world, missing only a few sparsely populated areas.¹¹ Infection rates were high in most places up to 1900, and most people were infected in childhood. Infection rates varied in different times, places, sexes, races, occupations, social strata and economic states.¹⁵

Diminution in the spread of tubercle bacilli, which was brought about by the institutional isolation of patients with the organism in their sputum is the chief factor in the gratifying decline in tuberculous infection, disease and deaths.¹² The rapid decrease in new infections during the past half century has been obscured because evidence of previous infection is still being observed at autopsy, in clinical and x-ray examinations and in tuberculin tests. But the extent to which the spread of the infection has been controlled is reflected in data on more recent tuberculin tests of population groups, especially in the young.

Before the first world war more than half of the school children in California, as in most other places, were infected by the tubercle bacillus.¹³ By 1937 extensive surveys involving more than a hundred thousand tests showed that only about a quarter were then tuberculin-positive.¹⁰ Nearly half a

• Although fewer patients with tuberculosis are reported in a far advanced stage of the disease than ever before, the proportion of persons dying of tuberculosis whose disease had not previously been diagnosed appears to be increasing. The average length of sanatorium treatment, and the intramural case fatality rates have not shown much decrease. Tuberculosis mortality rates fall during economic depressions and rise with business booms. Epidemics of influenza do not always increase tuberculosis death rates. Common claims to the contrary are not sustained by recent California data.

million tests recently performed in this state have revealed a further drop, to less than 3 per cent.⁵

The annual rate of conversion from negative to positive reaction to tuberculin tests for different years may be calculated from these and other available prevalence data. They fall near a straight line when plotted arithmetically but not logarithmically, decreasing more than one-tenth of one per cent per annum. This probably results from the similar decrease, each year, of open carriers of the infection, through segregation in the relatively static number of institutional beds. It implies that new infections will practically cease within a few years.

Even the present low rate represents thousands of new infections annually. Only a few have been traced to the infecting source and the further dissemination of the bacilli interrupted.

Tubercle bacilli obtained from about 5 per cent of newly diagnosed patients are resistant to one or more of the chief anti-tuberculous drugs, such as streptomycin or isoniazid, as a result of infection from previously unsuccessfully treated sources.⁴ Half of the patients who continue to have sputum positive for the bacilli despite chemotherapy excrete such resistant organisms. Only 10 per cent of all new active cases may accordingly be attributed to known vectors. Many of the remaining 90 per cent represent reactivation of infection that was contracted before the advent of chemotherapy. But in other cases, perhaps the majority, the patient had been infected or reinfected by exposure to persons with undiagnosed disease. The discovery of such unrecognized spreaders of tuberculosis is essential for the complete eradication of tuberculous infection.

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The prevalence of positive reactors at different ages was determined in a survey of about ten thousand adults in Los Angeles in 1955-57.⁸ The findings agree with those calculated from the decreasing incidence of new infections per year at all ages as indicated by tuberculin tests in school children, projected backward over the past century and corrected for an annual loss of about one and a half per cent of the positive reactors. This correction is necessary because of the excess mortality from tuberculosis and other causes in infected persons and also because of the reversion of tuberculin sensitivity from specific and nonspecific causes. According to these findings, less than one-third of the entire population of California today has ever been infected by the tubercle bacillus, as compared with two-thirds half a century ago.

DISEASE

The incidence of tuberculous disease in persons who are infected is generally greatly underestimated.³ Nearly all the four million people in California who have been infected probably bear parenchymal, hilar or pleural residues of their primary tuberculous lesions. About a million of them also have gross reinfection lesions which might be recognized by sufficient adequate clinical and x-ray examinations or on autopsy. Many of these lesions are healed and free of viable bacilli, but all had been active at some time and a large proportion contain latent bacilli which may again multiply and produce further disease at a later time.

Only two in a thousand positive reactors may be reported as having new cases of active tuberculosis in any one year, but the cumulative number of new active cases reported during their entire lifetime may exceed 10 per cent of those infected. Numerous survivors from the 380,000 new active cases of tuberculosis reported in California since 1933, and many others who had been reported elsewhere, are now living, apparently recovered, in the state.⁷ They contribute largely to the relapses and new infections requiring treatment.

More than one per cent of apparently healthy people who have routine x-ray survey films show pulmonary densities which are ascribed to tuberculosis. Such surveys do not, however, reveal the entire incidence of the disease. Higher rates are found among persons in the older age groups, in the non-white races, in the million patients admitted to hospitals in the state annually, in prisoners and in other depressed groups. Patients with previously diagnosed disease, especially those under treatment, usually do not take part in the surveys. Even if they do, old lesions may disappear and many lesions may not be seen. Among several thousand previously reported patients who participated in the

Los Angeles survey of 1950, the majority were called "negative" by the examiners of the screening film.¹⁴ Many more lesions may develop in the years after the survey is made.

A majority of the cases of active tuberculosis are probably never diagnosed and reported anywhere. Among persons who die of tuberculosis in California, more than a third have never been previously reported.⁵ As advanced and fatal tuberculosis is much more easily diagnosed, an even higher proportion of the nonfatal cases may be expected to have been missed. Analysis of death certificates, cumulative morbidity reports and follow-up of x-ray surveys support the autopsy findings that clinically significant tuberculous disease eventually develops in about a fourth of all persons infected.

Quantitative and qualitative deficiencies in the existing case registries render dubious any conclusions derived from them. The prevalence of active tuberculosis—that is, the number of active and communicable cases at any one time—is probably several times the number of new cases reported annually, but the exact figure cannot be determined from the information now available. The tuberculosis morbidity rate or, rather, the incidence of reported new active cases has decreased in California from more than 250 per hundred thousand population before 1920 to less than 40 last year.⁷

Most tuberculous lesions are pathologically active and bacteriologically communicable for a small fraction of the entire time they exist. The duration of such activity may not have changed much, on the average, in the course of time despite the efficacy of modern chemotherapy. Tuberculosis is diagnosed in less than half the patients who have the disease and many are never adequately treated.¹ The rapid inactivation of the lesions and conversion of sputum to bacilli-negative in those who do respond to present-day treatment may be balanced by the much longer survival of those who eventually die of the disease. Less than a tenth of the tuberculous lesions discovered in x-ray surveys are subsequently proven to represent active tuberculosis at that time.⁸ Only patients with active disease are included in morbidity reports. As the prevalence of tuberculous infection in California has also fallen during this time, the ratio of new reported cases to positive reactors has dropped more slowly, from about 350 to around 100 per thousand. Even less change in this ratio has been noted in other places.

Tuberculosis case reporting has improved greatly in recent years. Although even today less than half of new active cases are ever reported, a generation ago only about one case in ten was reported. The proportion of the newly reported cases which were already far advanced when diagnosed has decreased from about half in 1946 to less than a fourth in

1958. The true incidence of similar new active cases of tuberculosis has therefore been dropping more rapidly than that of the reported cases, although more slowly than has the number of new infections.

The chief cause of the decrease in the number of new cases reported per hundred thousand population is the decrease in the number of infected persons. The proportion of all previously infected persons reported as having new active tuberculosis each year has also been falling, although more slowly. The incidence of new active lesions among those infected diminishes with the passage of time after infection, since lesions resulting from heavy infections or superinfections, or in highly susceptible subjects, occur more often in the first few years following the infection.

Smoldering or inactive lesions may persist, however, and relapses or exacerbations may appear at any time. The incidence of such late active lesions may be diminished by improved nutrition and other measures for increasing resistance, and perhaps by the wider use of protective chemotherapy.

DEATHS

The death rate from tuberculosis in California was for a long time one of the highest in the union. During the half century between 1860 and 1910, the various forms of tuberculous disease accounted for about one sixth of all deaths recorded in the state. Since then the relative rate has fallen continuously, even more rapidly than that in the United States as a whole, and for the last few years less than one per cent of all deaths has been ascribed to tuberculosis.

For the first few decades of the century the rising population more than offset the falling death rate, but the number of deaths, which reached a peak of 6,074 in 1928, has since fallen to little over a seventh of that figure, to about 870 in 1958. In 1910 the tuberculosis death rate was over 200, last year a little over 5 per hundred thousand population. The decline would be even more pronounced if only deaths due to active progressive tuberculous disease were considered; an increasing proportion (now nearly half) of all deaths ascribed to tuberculosis result from cardiorespiratory consequences of the disease such as pulmonary insufficiency and cor pulmonale which may develop and progress even after the active infection is brought under control.

The number of tuberculosis deaths per hundred thousand population has been falling in a relatively uniform arithmetically linear fashion, averaging about four deaths per hundred thousand less each year for the past 30 years. However, the decrease during the past few years has been slower, averaging 2 per year. Fluctuations around this trend may be explained, in part, by technical factors. Califor-

nia's change-over in its death reporting classification to accord with the 6th Revision of the International List of Causes of Death, which was done in 1950, caused an artificial apparent drop in the deaths ascribed primarily to tuberculosis. Another possibility is that the actual variations in the population of the state in intercensal years may not agree with the estimates of population that are used by the health departments in calculating death rates.

Real departures from the general trend of tuberculosis mortality rates may accompany changed economic conditions. Business booms have usually been accompanied by higher tuberculosis death rates and economic depressions with lower rates.² This has generally been true in California, as in the entire United States for over 50 years, but the phenomenon was not apparent with the recent recession, perhaps because prosperity was generally maintained despite increased unemployment and lessened production.

The slower decrease in tuberculosis mortality in the past two years may be ascribed to the effect of the Asian influenza epidemics. An increase in deaths ascribed (perhaps sometimes incorrectly) to tuberculosis has been repeatedly noted in the course of influenza epidemics. This was especially striking during the great influenza pandemic of 1917-18 and the recurrent waves during the next few years; and it has appeared in some waves since then, in California as in the United States. This has not always occurred, however, and it may be possible that with improved diagnosis there may not be so decided a relationship in the future as has been reported in the past.

INSTITUTIONS

There has been a decrease in the number of patients being cared for in the approximately ten thousand beds available for tuberculosis in California in recent years. The decrease has been slight, however, in comparison with the decrease in the number of new cases of tuberculosis reported, or with the decrease in the number of probably active cases known to the health department. Accordingly, there are fewer patients with active disease outside of institutions today than ever before. A much larger proportion of such patients, moreover, is sputum-negative as a result of the home treatment they are receiving from public agencies and from private physicians.

The proportion, as well as the absolute number, of patients with active tuberculosis and the number cared for by general practitioners may be dropping even more rapidly, although there is little reliable data on this point. The proportion of persons with known active tuberculosis not receiving any treatment at all, however, is still high, although probably

diminishing. Even greater numbers of patients with active tuberculosis, however, are not being treated because the disease has not yet been diagnosed in them.

The case fatality rate of known tuberculous patients in institutions, and following their discharge, has decreased in recent years, but the improvements resulting from chemotherapy are partly offset by the increased average age of the patients and perhaps to a lesser extent, by the fatalities ascribable to surgical operation and drug toxicity. The slightly lessened number of institutional beds occupied by a much smaller number of known active cases suggests that the apparent shortening of sanatorium stay reported by many investigators is actually an error due to the increased number of readmissions to the same and other institutions now occurring; and it is probable that the average length of intramural care per patient, as distinguished from length of stay per admission, is even greater than in the past. This has been confirmed by review of records at Olive View, where the increase in readmissions of the minority for whom treatment has failed more than balances the shorter stay of the more fortunate majority.

It is still too soon to be complacent and to relax our efforts. Changes in the virulence of the bacillus, in its resistance to chemotherapeutic agents, in the channels of transmissions and in the reactions of the hosts may still be anticipated. Research must be accelerated to cope with the changes which are occurring and to improve the measures now available. Public education, tuberculin testing and x-ray screening for suspects, clinical and laboratory verification of the diagnosis of communicable, active or latent lesions, institutional isolation and effective treatment and prolonged and unremitting aftercare and supervision are particularly important, now that so much success has been achieved here in California.

Millions are still dying of tuberculosis every year, tens of millions are continuing to scatter the germs, and billions are already infected throughout the

world. In California we are exceptionally fortunate. Less than one-tenth of one per cent of our children are now being infected annually, active tuberculosis develops in only 30 persons in a hundred thousand each year, and only five in a hundred thousand will die of the disease this year. The success of past efforts should stimulate continued and increased activities to achieve a goal already reached in some smaller places: No new infections, no breakdowns in neglected old lesions or continued activity of undiagnosed and untreated tuberculosis, and no deaths from progressive inadequately treated disease.

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Injuries of the Hand and Forearm

Treatment of Damaged Soft Tissues

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SOFT TISSUE INJURIES of the hand and forearm generally result in considerable disability, either the temporary disability that causes loss of time from work or the deformity and loss of function that are permanently disabling. Special attention to primary care can often considerably reduce permanent disability.

The soft tissues of the hand and forearm provide cover of various types, include the tactile and nerve elements supplying sensation, and afford motion to the digits resulting in prehension. Dealing with injuries to the hands requires a detailed knowledge of specific regional anatomy and a crisp conception of orthopedic, neurosurgical and plastic specialty problems.

Successful primary reparative surgical treatment of an injured hand depends on reactionless healing.

It is important to appreciate the differences between lacerated wounds and crushed wounds of the hand, to evaluate the individual problem and to elect either immediate primary or delayed primary repair on the injured tendons and nerves in the soft tissues of the extremity (Table 1).

The incised wounds are clean-cut lacerations from sharp cutting surfaces. They are the so-called "tidy wounds." Here, skin loss, if any, is clearly defined, cut nerves and tendons are common, fractures are uncommon and the wounds generally heal promptly.

Minor puncture wounds also cut soft tissues and are, all too frequently, the portal of introduction of infective organisms and of foreign bodies (pieces of glass, steel, wooden splinters, etc.).

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Presented as part of a Panel Discussion on Traumatic Injuries to the Forearm and Hand given before a Joint Meeting of the Sections on Physical Medicine and Industrial Medicine and Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

• Successful primary repair of soft tissue injuries of the hand and forearm holds the ultimate disability to a minimum. The kinds of trauma and the resultant soft tissue damage may be classified. Attention to details and technique in carrying out the primary reparative operation on the injured hand largely obviates a crippling deformity or the need for much reconstruction later.

The crushing wounds are the irregular, ragged, "untidy type" such as those from machinery like power saws, presses, belts and pulleys. In these there may be areas of skin loss, multiple fractures, incomplete amputations, exposed tendons and nerves and contused tissue with impairment of circulation. Healing is generally a problem, and recovery of function may take a long time.

Amputations may result from either lacerated or crush injuries but are generally associated with traumatic circulatory inadequacy.

In avulsed wounds there are areas of loss of skin cover, such as of fingertips, the entire surface of a digit, the dorsum or palm of the hand or a portion of the forearm. Providing a cover for the denuded areas often is a problem.

Wounds that do not of themselves do enough damage to tissue to require extensive repair but that become infected should be dealt with conservatively, with supportive care.

When dealing with a recent injury to the hand, one first must assess the individual problem and determine the extent of damage. This is accomplished by considering the nature of the injury, the time and the circumstances, what first aid care was rendered, the age, skill and major handedness of the patient—this along with a clinical examination of the injured hand to determine the region involved

TABLE 1.—Classification of Soft Tissue Injuries of the Hand

		Nature of Lesions	Interval for Primary Repair
Lacerations	"Tidy type"	Cut tendons and nerves	12 to 18 hours
Puncture wounds	—	Cut soft tissues, foreign bodies	12 to 18 hours
Crush wounds	"Untidy type"	Skin damage, fractures	8 to 12 hours
Amputations	"Untidy type"	Circulatory inadequacy	12 to 24 hours
Avulsions	—	Loss of skin cover	8 to 12 hours
Infected wounds	—	Tissue loss from slough	Conservative treatment

and what structures, in general, may have been damaged, and x-ray studies.

Of special interest is the time interval since injury, the degree of initial contamination, and the extent of meddlesome first aid interference such as exploring for foreign bodies or searching for cut ends of tendons.

One can elicit considerable information by simple tests of tendon function, such as posture, tendon tension on the digits or by observation of continuity of motion. Nerve continuity can be demonstrated by checking various motor functions of specific nerves, or by touching the exposed skin surfaces with a pin or wisp of cotton. X-ray studies should be made at this time. Thus, the evaluation of extent of damage and of probable need for repair may usually be accomplished by inspection of the hand without removal of protective dressings. Detailed examination of the wound itself should be withheld at this stage.

After the foregoing evaluative observations, one is in a position to outline a plan of management that will afford the patient maximum recovery. The choice of repair must be carefully evaluated with regard to degree of disability, time elapsed since injury and risk entailed in reparative procedure. The patient should be informed, to whatever degree possible, of the problem; but for the most part the surgeon must make the detailed decision.

It is permissible to generalize that primary repair is never attempted in hand wounds caused by being bitten by humans or animals or in wounds grossly contaminated with human or animal excreta. In cleanly incised wounds in which no bacteria are found upon microscopic examination of material swabbed from the surface of the wound, one is justified in carrying out tendon repair after elapse of as much as 18 hours after injury. In the crushing wounds, primary repair of the deeper structures is rarely justified after 12 hours.

Definitive treatment should be attempted only under the best surgical conditions: A hospital operating room, strict asepsis, trained assistants, proper instruments and adequate lighting are all important items.

Satisfactory anesthesia is necessary. General anesthesia is required in most cases of severe hand injuries. However, local block anesthesia in the nerve trunks often is adequate. Brachial plexus block is rarely used since it is time-consuming, requires an expert in the technique and is not without risk.

In cases of compound wounds, tetanus toxoid is given to persons with a record of adequate active immunization. If not, decision has to be made as to whether the circumstances warrant use of antitoxin prophylactically. Cultures should be made of material from the wound and sensitivity tests carried

TABLE 2.—*Surgical Principles in the Management of Hand Wounds*

1. Protection of wound from further contamination and trauma
2. Mechanical cleansing of the wound
3. Thorough removal of devitalized tissues
4. Repair of injured deep structures
5. Reduction of fractures
6. Immediate closure of wounds

out if organisms are found, so that proper antibiotics may be administered.

The steps in the surgical care of hand wounds are important (Table 2). The wound should be protected with a thick sterile gauze pad from further contamination and trauma until treatment in surgery can be undertaken. Under anesthesia and asepsis, a thorough cleansing of the wound and the surrounding field can be accomplished. First the entire limb should be completely washed with soap and water, benzine if necessary, and shaved. Thorough rinsing is the next step. Then the wound itself may be mechanically lavaged, and gently but thoroughly washed. The extremity is then made bloodless by a pneumatic tourniquet and sterile drapes are placed about the field. Thorough debridement is mandatory, all layers of the wound edges and all ragged or severely traumatized tissue being excised, but with great care not to traumatize or to sacrifice useable or vital structures. Attention must be given also to removal of hematoma or any foreign material.

Although the advent of antibiotics has extended the time after injury that operation may be done, chemotherapy cannot offset inadequate debridement or rough handling of the tissues.

After debridement has brought about a clean surgical wound, a detailed examination of the damaged structures can be completed. Full inspection of the wound will determine the amount of skin loss, the viability of skin margins and the extent of injury to the deeper structures. The so-called "proper boulevards" in the skin must be observed in lengthening the wounds or making incisions to obtain exposure for treating the deeper structures. T-shaped scars and any incisions which might cause flexion contractures or jeopardize the circulation are to be avoided.

Of great importance toward restoration of function is the primary repair of divided nerve trunks in the forearm or hand, and even of the small volar sensory nerves within the digits. Repair of the nerves has first priority, as any delay results in irreversible atrophy of the important small muscles in the hand, or in trophic sensory changes of the digits.

Divided nerves must be brought together in an accurate hand-sewn junction made with fine interrupted No. 7-0 black silk sutures. Tension on the

suture line is to be avoided. Gaps from loss of nerve substance often can be overcome by flexion of the adjacent joints. The traumatized ends of the nerves in crush wounds are generally resected back a bit farther in order to have sound nerve ends at the point of suture. Splinting immediately after operation is generally required. Use of the snub-method of splinting is an adjunct in the later post-operative care.

In repairing severed tendons attention must be given not only to restoration of the continuity of the tendons but to preserving their gliding ability.

Extensor tendons are repaired with the minimum of suture material and generally require no additional exposure. Simple figure-of-eight sutures or roll-type monofilament stainless steel wire sutures generally suffice, followed by adequate postoperative splinting.

The flexor tendons generally retract to some degree, necessitating additional exposure. However, with judiciously placed accessory incisions, the tendon ends may be approximated with reactionless stainless steel wire sutures. The withdrawable pull-out stainless steel wire tendon suture technique of Bunnell is used in repairing flexor tendons within the thumb and fingers. These sutures are placed so they can be withdrawn from the digits as soon as healing permits. This method requires a minimum amount of suture material and affords a maximum of gliding ability. Buried braided Fagersta®, a Swedish stainless steel wire, is used in suturing tendons in the palm or forearm. Exercises can be carried out during healing.

Some surgeons are using primary tendon grafts within the finger when the flexor tendons are cut within the digital sheaths. This method avoids the obvious possibility of adhesions at the tendon suture line within the finger. However, it has been my practice to carry out primary tendon suture even in "no man's land" in the finger, and to reserve the free tendon graft (palmaris longus with its slippery paratenon sheath) for a possible reconstructive procedure if that becomes necessary later.

The repaired tendons, of course, need adequate soft tissue cover. Wound healing should be as reactionless as possible. Crushing wounds offer considerably more of a problem in restoring function than do lacerated wounds. Active exercises are instituted as soon as practical.

When the time interval permits and the physical facilities are available, primary repair of the injured soft tissues is, of course, desirable. But rather than compromise on time interval or technique, it is far better to get the hand or forearm closed with adequate cover, obviating infection; then several weeks later, after the induration of the tissues has subsided and the danger of latent infection has

TABLE 3.—Methods of Wound Closure

1. Primary closure by suture without tension
2. Closure by suture and split skin graft
3. Closure by local flaps—advanced or rotation—and split skin graft
4. Direct full thickness flap from a distant area

disappeared, the primary nerve and tendon repair can be done.

The bony framework must be restored—dislocations reduced and fractures set. Maintenance of position can best be accomplished by simple internal fixation by means of Kirschner wires. This permits proper temporary splinting of repaired tendons and nerves without disturbing the bony alignment. This method of maintaining immobilization also permits exercising of the repaired tendons during bone healing. A pistol-handled drill is an adjunct in placing the wire accurately and deftly. Kirschner wires used in compound fractures do not add to the hazard so long as they are cut off just beneath the skin, avoiding local irritation and permitting easy removal later.

The use of the dorsal exposure longitudinally through the extensor apparatus on the dorsum of the finger gives excellent access to the entire proximal phalanx. This procedure has been used previously to give exposure for doing surgical capsulectomy on metacarpophalangeal joints of the fingers. It can be utilized also in reducing and in wire-pinning severely displaced simple fractures and practically all compound fractures of the proximal phalanges of the fingers.

Neosporin antibiotic ointment gauze, scarlet red ointment gauze, or neocortef ointment, have been used as wound and skin graft dressings and have been found to be much less macerating to the tissues during healing since they are made up with a base of beeswax of a high melting point, rather than with Vaseline.

The importance of the immediate or primary closure of wounds of the hand cannot be overemphasized. The main object of primary treatment is the complete closure of the soft tissue wound no matter how extensive the tissue loss or how difficult for the surgeon.

There are several methods available in effecting wound closure (Table 3). If the wound is of the incised type, primary closure by suture, without tension, can be achieved. Because of its nonirritating quality, monofilament stainless steel wire is used for skin sutures. No buried absorbable or nonabsorbable sutures are used.

In the crushing wounds, there usually is varying degree of skin loss or skin damage from circulatory injury; or closing the wound, without tension, may

be impossible because of local edema or bleeding. In such circumstances, one closes as much of the wound as possible, without tension, and covers the remaining defect with a split skin graft. It is important that the vital or repaired structures have adequate tissue cover, even if this requires a local flap maneuver.

Local thick skin flaps from the sides of a finger may be advanced or rotated to provide full thickness cover. In selected cases of extensive loss of skin over the volar aspect of a segment of a finger, a cross finger flap may be expeditious for providing full thickness skin to cover exposed or damaged digital nerves and tendons. The adjacent donor site can be closed with split skin graft. The use of a palmar skin flap for covering fingertips by acutely flexing a digit is to be avoided, as is the use of an abdominal flap to a fingertip, which always results in a purple biscuit of unsatisfactory skin.

Not only must wounds be closed without tension but "dead space" must be avoided and the approximation of wound edges must not interfere with local blood supply. The tissues should be handled atraumatically and the formation of hematomas should be avoided even if a tiny rubber tube drain must be used for 12 to 24 hours.

A full thickness free Wolfe graft from the antecubital flexion crease at the elbow supplies a great deal of suitable skin where avulsion is a problem. This donor area is being used more frequently nowadays. The skin can be removed under the same tourniquet and the donor site defect closed by a single line of sutures by flexing the elbow to a right angle position. The elbow should be splinted post-operatively for several weeks. Only a linear scar in the skin creases results.

For wider areas of denudement, such as the back of the hand, the thumb cleft or the palm of the hand, a direct abdominal flap must be resorted to. An entirely closed method is used so that the defect is covered with full thickness skin and subcutaneous tissue and the donor site and undersurface of the flap are covered with split skin graft. Kirschner wires are used to control the position of the thumb,

or the degree of rotation of the forearm, to avoid tension, rotation or circulatory embarrassment at the base of the flap.

One should always attempt to save maximum length of the thumb and afford serviceable cover to the fingers or stumps. Usually it is better to shorten a finger, especially if the tissues are crushed, to provide satisfactory cover rather than to close the stump with tension or with a button of pedicle skin graft.

If all four of the fingers are amputated, it seems best to close the hand with a direct abdominal flap to preserve length. One rarely can close the hand stump satisfactorily without tension.

If a finger is severely damaged and is to be sacrificed, its skin with the vessels and nerves should be utilized for full thickness cover by the fillet method. A filleted central finger generally requires the jogging over of the outside ray.

The principles of care after primary operative treatment are very important in the restoration of function of soft tissues of the forearm and hand. The repaired tendons and nerves must be properly supported by splints during healing. Elevation minimizes edema and digital stiffening. The early utilization of voluntary exercises and activity with a wooden block or flat rubber sponge, instead of passive manipulation and the dependent soaks so frequently used, helps restore useful function to the digits more rapidly.

In general, in carrying out various plastic procedures, one must be able to visualize the stages in the procedure and to appreciate the degree of restoration of function. Overenthusiasm for restorative procedures must be guarded against. Primary reparative operation, when carried out with observation of special details and careful technique, largely obviates a crippling deformity or the need for much reconstructive operation later.

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Dermatologic Changes in the Circumileostomy Skin

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and SAMUEL I. ROLAND, M.D., San Francisco

ILEOSTOMY to provide an outlet for fecal material after operations done because of colonic disease is accomplished by bringing the terminal ileum out through an opening in the right lower quadrant of the abdomen between the anterior superior iliac spine and the umbilicus, and affixing it to the abdominal wall. The distal end of the ileum is permitted to project for a short distance beyond the peritoneal cavity in order to obtain a satisfactory ileac stump. The opening in the stump of the ileum is referred to as the ileostomy stoma. The stump may be modified by removing the muscular layers of the ileum and folding the mucosa down, externally, to be sutured to the skin. Other operative procedures used to protect the ileac stump include the grafting of skin to the serosal surface.^{3,5}

It would seem apparent that proteolytic enzymes and alkalinity of the intestinal discharge would create a corrosive liquid capable of digesting the epidermal structure; however, Brooke² has shown that intimate contact of this fluid alone is not sufficient to cause digestion of the epidermis. Other factors, including a moist epidermis, duration of contact, degree of proteolytic activity and pH, appear to be necessary to cause destruction of the epidermis. Inflammatory changes varying from mild erythema to ulceration and fistula formation are seen as a result of this epidermal insult.

In order to collect the fecal discharge and prevent its direct contact with the skin, these patients must wear a mechanical device. A rubber, plastic or metal disc with a central opening for the ileostomy stump is affixed to the skin of the abdomen by an adhesive material or by a series of belts or a combination of the two (Figure 1). From this disc is suspended a bag for collecting the fecal discharge. The bag is either attached separately to the disc (two piece) or the unit includes disc and bag (one piece). It is necessary that the appliance be changed at regular intervals to avoid odor and for hygienic care.

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• A comprehensive questionnaire inquiring about difficulties with care of the skin in the area immediately surrounding the artificial anus was sent to ileostomy patients in the United States. Eighty per cent of 327 replying to the questionnaire had such difficulties.

The problem of irritation is essentially that of intimate contact of fecal material with the circumileostomy skin, and associated factors are the potentially irritating materials used in the manufacture of ileostomy appliances, as well as the adhesives used to affix the appliance to the skin. Mechanical trauma incident to removal and reapplication of the appliance, as well as loosening of the disc and exposure of unprotected skin, accelerates the corrosive action of the material discharged. Changing the appliance before leakage or irritation occurs is helpful in preventing skin difficulties.

In cases of long standing or repeated irritation, care must be taken to check the suitability of the appliance or the possibility of a complication in the stoma that could be corrected surgically.

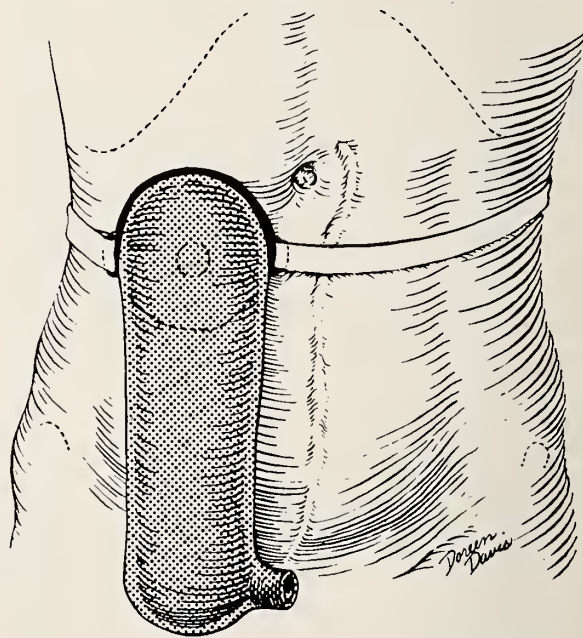


Figure 1.—Appliance bag in right lower quadrant with disc affixed to skin and belt aiding in support. Other types of appliances are available.

A major concern of the patient after ileostomy is the recurring skin irritation in the circumileostomy area, which may cause severe pruritus, pain, excoriation and bleeding. The care of these epidermal manifestations has passed without significant interest in the literature, and indeed little attention has been given to this difficulty.

In order to investigate the dermatologic problems associated with care of the circumileostomy skin, a comprehensive questionnaire was distributed to known ileostomy patients in the United States.* Three hundred and twenty-seven replies were received. No further attempt was made to communicate with persons who did not return the answered questionnaire. From the answers received, information concerning the specific problems of these patients was tabulated.

Results of the Survey

Two hundred and sixty-four patients (80 per cent of those replying) reported skin difficulties in the circumileostomy area. Of these, 157 (60 per cent) said that their greatest difficulty occurred in the first six weeks after operation (Chart 1). The majority of patients were in the 20 to 60 year age group (Chart 2). In 51 per cent of the cases at least a year had elapsed since ileostomy (Chart 3). One patient had had an ileostomy for over 34 years. Three hundred and two (96 per cent) said ulcerative colitis was the condition necessitating an ileostomy.

The interval between changes of appliance varied. The majority of those replying preferred to change it more than once a week, frequently daily (Chart 4). Factors influencing the length of time an appliance is worn include: Leakage of the fecal discharge under the disc of a loosened appliance, development of foul odor, irritation, as evidenced by pruritus or burning, personal hygienic care and cleaning of the appliance.

Sixty-seven per cent preferred to change the appliance at a certain time of the day. Many preferred to change it in the morning before breakfast or in the evening before retiring. The activity of the bowel at these times was reported to be minimal. Others reported that no set time was suitable and that changing must be regulated by the daily activity of the individual. The appliance bag was emptied of accumulated materials as necessary, usually at a convenient time and place.

Sixty-seven patients (21 per cent) preferred to wait for leakage to occur before changing the appliance.

Most patients followed a set pattern in the care of the ileostomy. Patients who used cement to affix the appliance to the skin reported using a solvent

*Accomplished in cooperation with organized ileostomy clubs in the United States.

PERIOD OF GREATEST DIFFICULTY

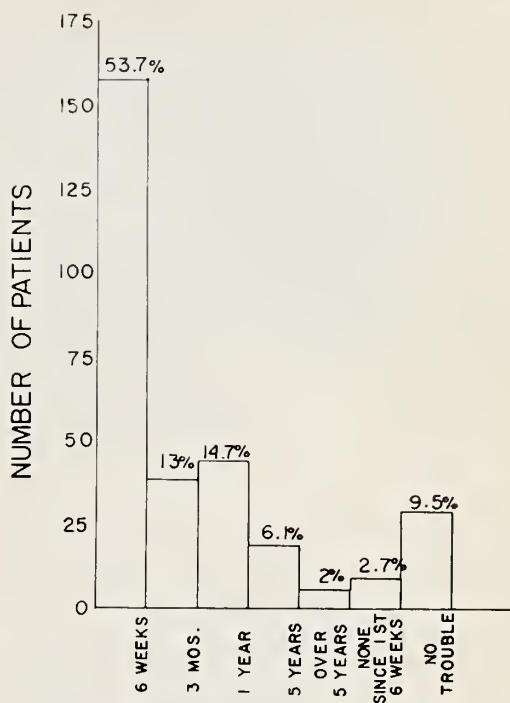


Chart 1.—The incidence of skin difficulty in various periods following ileostomy.

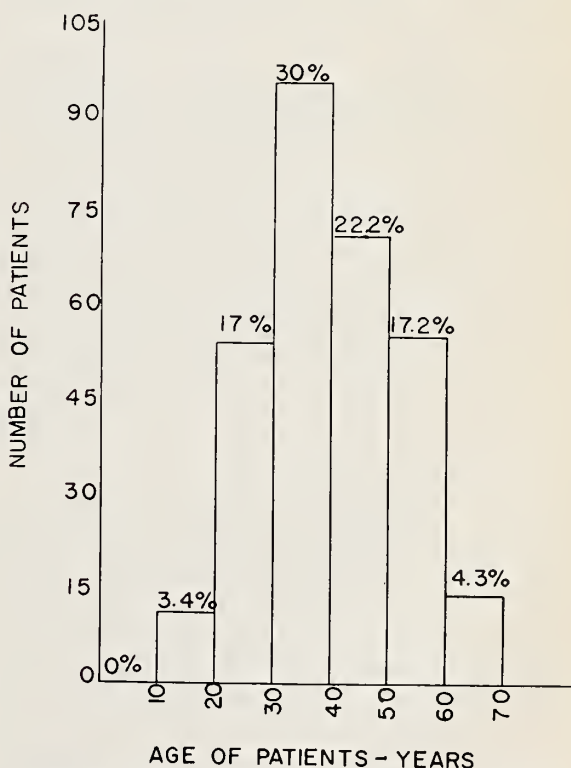


Chart 2.—The age of ileostomy patients when the questionnaire was answered. Arranged by decades.

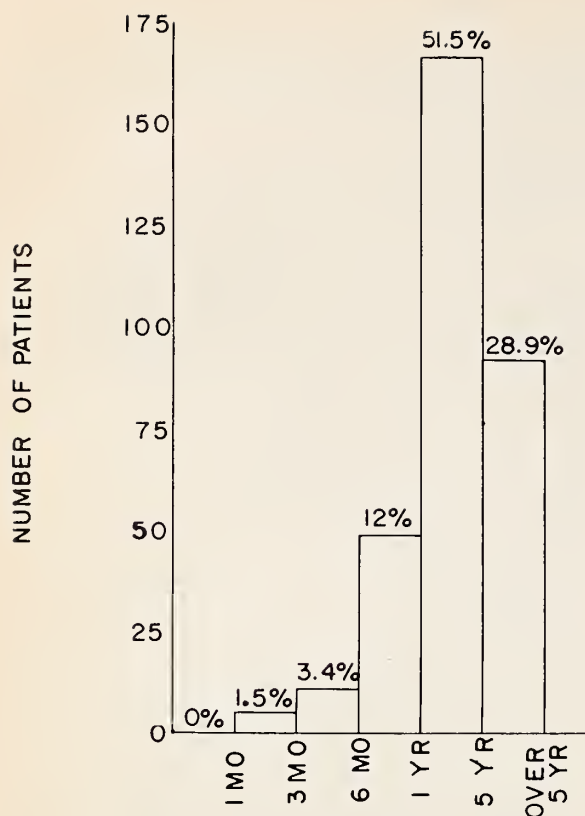


Chart 3.—Time since ileostomy at the time the questionnaire was answered. Arranged in representative periods.

such as benzene, ether or alcohol to facilitate removal. After the area around the stoma was cleaned, frequently with soap and water, the appliance was again cemented to the abdominal wall.

In the immediate postoperative period, the small bowel was quite active and the discharge so thin that precautions had to be taken to prevent overflow onto the surrounding skin. Approximately 35 per cent of the patients experienced difficulty beyond the six-week postoperative period. Although the time during which the skin was at its worst varied, difficulties occurred from time to time afterward.

Factors Influencing Irritation

Illness, associated with diarrhea, increased the likelihood of irritation in 40 per cent of the patients who replied to the questionnaire. Diet was troublesome in 30 per cent of the cases, but was of no consequence once the tolerance for liquids and certain foods was learned. Foods causing loose stools were avoided. Irritation was held to a minimum by exerting extra care to prevent leakage. Fruit juices, fresh fruit and highly seasoned foods were noted as items to be taken with caution and in small quantities. A large, firm stool, or one with too much

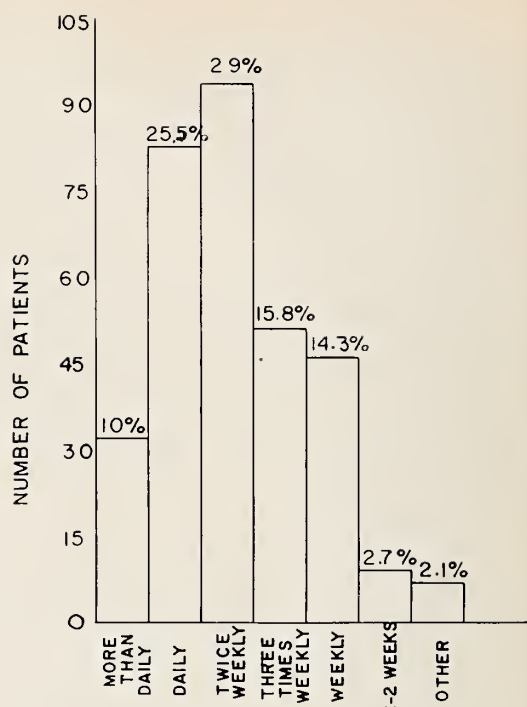


Chart 4.—Frequency of appliance change.

roughage or solid objects—peanuts, for example—was reported as causing the disc of the appliance to become displaced near the stoma, with resultant leakage. Hot weather caused early loosening of the disc due to increased perspiration. Hot weather also tended to increase pruritus, leading to excoriation. An increase in the amount of physical activity during warm weather sometimes led to premature loosening of the ileostomy appliance, necessitating frequent changing.

The optimum length of the ileac stump has been reported to be a half inch to an inch from the abdominal wall, with three-fourths inch the most functional.¹ The desirable length of the ileostomy stump was placed at between a half inch and one inch by 71 per cent of the patients. It was reported that when the patient was supine, back-flow from the appliance bag pooled fecal material about the stoma; hence irritation of the skin was particularly likely to occur at night. Although true allergic contact dermatitis was uncommon, many subjects complained of a primary irritant effect from using adhesive or solvent.

Location of the surgical scar, nearness of stoma to anterior superior iliac spine or umbilicus, fullness of the abdomen, manner of collecting ileostomy discharge and frequency of appliance change were factors influencing the site and degree of irritation. Painful, weeping and oozing epidermis with a tendency to bleed sometimes was noted in these irritated areas. Ulceration occasionally occurred as a compli-

cation of chronic irritation, but granulation tissue was more likely to form in the areas of repeated inflammation. As a result of wearing the appliance and repeated applications of an adhesive, along with its removal by a solvent, the skin directly beneath the appliance disc was noted to become hyperpigmented, slightly lichenified, and smooth. In a few instances the changes were detrimental, resulting in pain and irritation in spite of appropriate care (Figure 4). The presence of hair in the affected site was not a factor of importance. Some of the subjects considered the presence of hair of value in "toughening" the skin, while others felt the hair a hindrance to the comfortable wearing of an appliance and shaved the area regularly.

Area of Greatest Involvement

About 80 per cent of the patients reporting irritation said that the area about the stoma was affected in some degree. In this connection it may be noted that there is a band of unprotected skin between the stoma and the inner rim of the disc to which the receptacle attaches (Figure 2). This space is necessary to permit expansion of the stoma for the passage of firm stools, lest impaction and continuous pressure cause necrosis. Other areas also were reported to be subject to repeated irritation (Figure 3).

Adhesives and Appliances

The number of kinds of appliances in use is growing steadily. In addition to those available from manufacturers, individual patients may design or modify appliances to suit their peculiar needs. Usually an attempt is made to fit the appliance to the patient when he first begins to use one; and it is suggested that refitting might be advisable now and then to accommodate for changes in the patient's body and other factors.

Various materials are used for the collecting bags; natural and synthetic rubber with added filling agents, plasticizers, accelerators and vulcanizing agents of lead or sulphur, as well as plastics of various types. The basic ingredients of the proprietary adhesive materials available are crude rubber or latex with added solvent such as benzene, n-hexane, naphtha and carbon tetrachloride.

No attempt was made in the present study to correlate intolerance of appliance material or adhesives by means of patch testing. In view of known allergic contact dermatitis to these materials, however, we may be reasonably certain that this possibility exists.

Constant friction of the ileostomy bag on the abdominal wall, as well as the increase in perspiration associated with increased temperatures, resulted in localized areas of increased pruritus and excoria-

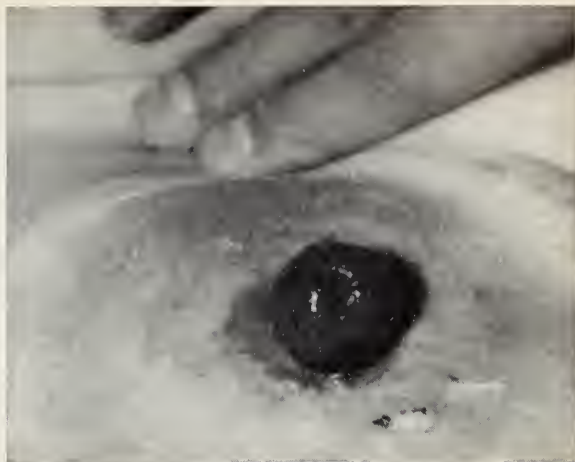


Figure 2.—Circumstomal inflammation in the unprotected area between the inner rim of the disc and the stoma.

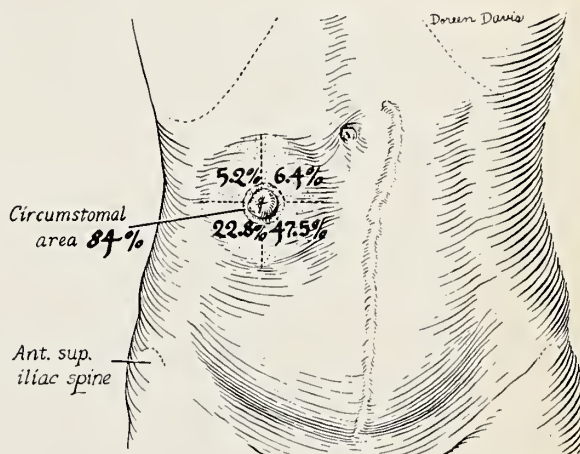


Figure 3.—Location of circumileostomy irritation, as reported by the patients in the questionnaire.

tion. A satisfactory method of relieving this difficulty was to encase the ileostomy bag in a "glove-like" sack of soft cloth. This, along with proper airing and a dusting powder, satisfactorily relieved the symptoms.

Treatment

Early treatment of irritation was generally conducted in a set, ritualistic manner. The number of agents used was quite large. Proprietary ointments, pastes and powders consisting of oil, starch, talc and zinc oxide were used by the majority of patients. One significant preparation, however, was karaya powder, a vegetable gum derivative. This powder was employed as a soothing, protective and adhesive preparation applied directly to the irritated skin and upon which the appliance could be affixed. Karaya gum powder is hygroscopic and, upon mixture with exuded serum in inflamed areas,

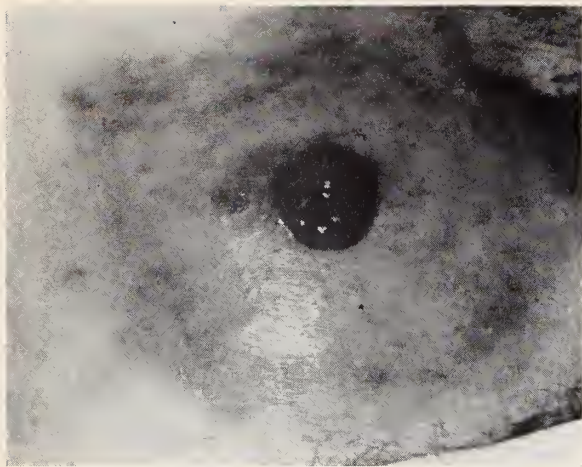


Figure 4.—Inflammatory changes in area covered by appliance disc. Three months after operation.

forms a sticky, adhesive material. Use of this preparation, along with simple, hygienic care, constituted a satisfactory treatment in many cases. In some cases many combinations of local therapy were used, including application of tincture of benzoin in addition to proprietary salves.

Revision

Revision of the ileostomy stoma because of disease of the skin about the opening was reported in only one case, but many patients who had to have a revision because of other major complications showed chronic skin manifestations as a secondary factor. In cases in which there was skin irritation along with a complication referable to the ileac stump, such as retraction or prolapse, the skin difficulty improved after surgical repair of the complication.

COMMENT

In order to avoid irritation, the circumileostomy skin should be protected from the fecal discharge at all times. Irritation secondary to a malfunctioning ileostomy or an improperly fitted appliance should improve rapidly following correction of these defects.

Once the skin has become inflamed and is painful or pruritic with a tendency to weep or bleed, it is important that adequate care be instituted to pre-

vent further irritation and to comfort the already existing difficulty. Cleansing agents, solvents, and adhesives should not be used during this stage of irritation.

In addition to proper care ordinarily given to acute inflammation, there is the problem of preventing fecal discharge from coming into contact with the skin. For collecting material that drains from the artificial anus in the immediate postoperative period, temporary, easily applied ileostomy bags are glued to the skin. Tubal drainage of the terminal ileum may aid in controlling excess discharge. As the patient is unable at this period to carry out the necessary hygienic measures, it is important to have proper nursing supervision. Leakage beneath a loosened ileostomy disc may pass unobserved unless the fitting is checked regularly. As the activity of the bowel decreases and the fecal discharge thickens, the care becomes less difficult and the patient better able to attend to it himself.

A definite program for ileostomy care should be followed. Since leakage is primarily responsible for the start of irritation, removal of the appliance before it loosens would aid in preventing leakage.

Local therapy was not investigated as a part of the present study. Gauze padding is to be avoided beneath the appliance disc or in the vicinity of the stoma, since saturation with fecal drainage would provide a concentrated source of corrosive material. Of the local treatments reported, karaya gum powder, used properly, gave the most improvement. Ultraviolet light was used rarely; perhaps if used daily it would lessen chronic irritation.

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Ultrasound

Its Effect on the Cardiovascular System When Applied Over the Carotid Sinus and Stellate Ganglion

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SINCE MANY PHYSICIANS use ultrasonic therapy, a study was carried out to determine whether ultrasound applied over the carotid sinus and stellate ganglion might have any untoward effects.

Twenty-nine persons, a few of them normal and the remainder with a variety of pathologic conditions, such as rheumatic heart disease with mitral stenosis, chronic coronary insufficiency, hyperthyroidism, emphysema with secondary right ventricular hypertrophy and lupus erythematosus, were included in the study. For 12 of them the equipment used was a continuous ultrasound machine and for 17 a pulsed ultrasonic machine.

To observe the effects of ultrasound on the cardiovascular system, the patient was seated in a chair

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Submitted February 19, 1959.

• In a study of 29 patients to observe untoward reactions to applications of ultrasound over the carotid sinus and stellate ganglion areas, it was noted that cough was evoked in five patients, premature ventricular systoles in three and a burning sensation of the skin at the point of treatment in five. No considerable effect on heart rate or blood pressure was observed.

with the neck and shoulders bare. An electrocardiogram was taken throughout the period of ultrasound application, using an oscilloscopic beam of the type used during surgical operation for direct continuous monitoring. The electrocardiographic lead usually chosen was lead one. Pulsed and continuous ultrasound machines were used because these are the two types of instruments currently in general use. Blood pressure and pulse reading were taken at the start

TABLE 1.—Data on Persons Treated with Continuous (Dallons) Ultrasound Machine

Case	Age	Sex	Race	Diagnosis	Remarks
1.	42	F	N	Exophthalmus. Hyperthyroidism.	"Burning" of skin over left carotid at 5 watts.
2.	66	M	W	Normal.	
3.	52	M	W	Emphysema. Right ventricular hypertrophy.	
4.	42	F	N	Scleroderma.	Local "burning" over the right stellate (8 watts to 6 watts).
5.	57	M	W	Vagotomy and subtotal gastric resection and hemorrhage. Hypertension (Blood pressure ranged from 142/100 to 170/100 mm. mercury).	
6.	61	F	W	Diabetes mellitus. Left ventricular hypertrophy. Chronic coronary insufficiency.	
7.	17	F	N	Normal.	Left carotid: 5 to .15 watts "burning" of skin. Right stellate: 6 to 4 watts "burning" of skin.
8.	69	F	W	Normal.	Cough at both carotids; left carotid: 6 to 4 watts; "bite" over the left stellate 8-6-4 watts.
9.	63	F	W	Cervical osteoarthritis.	Sensory changes in mouth and neck.
10.	47	F	W	Subtotal resection of stomach. Hypertension (Blood pressure ranged from 144/98 to 165/110 mm. mercury).	
11.	57	F	N	Vagotomy. Gastroenterostomy.	Right stellate: erythema skin at 10 watts.
12.	54	M	N	Periodic fever. Hypertension (Blood pressure ranged from 168/95 to 190/100 mm. mercury).	

Individuals were chosen who had cardiovascular abnormalities, illnesses not related to the cardiovascular system and normal persons.

and completion of therapy in each area. At the onset, each patient received five minutes of placebo therapy over one of the carotid sinuses. Placebo therapy consisted of going through the customary rotary application of ultrasound without connecting the machine to an electrical outlet. Then, with the machine connected for operation, ultrasound was applied alternately to the right and left carotid sinus areas in the neck. The two stellate ganglion areas were then treated in the same way. The application was five minutes in most instances, occasionally up to eight minutes. The dose over the carotid sinus was in the range of 4 to 6 total watts, and over the stellate ganglion 6 to 10 total watts.

RESULTS

The only side effects observed were cough, which occurred in five patients, ventricular premature contractions in three patients, and a subjective feeling of burning or biting of the skin in five instances. In all cases in which cough and ventricular premature

systoles were noted, they were concomitant with application of sound in the carotid sinus area. The dermal phenomena were concomitant with treatment of the carotid sinus and stellate ganglion areas. Four of the five patients in whom cough was evoked were in the group of 17 treated with the pulsed instrument, as were the three who had premature systoles. The five patients who noted biting or burning sensation of the skin were in the group of 12 treated with the continuous ultrasound machine. Lowering the dosage (watts) always relieved the dermal reactions.

No effect on the heart rate or blood pressure was noted with the application of sound over the carotid sinus and stellate areas.

The occurrence of ventricular premature systoles in three cases in the present series may be looked upon as cause for caution in the application of ultrasound over the carotid sinus area of patients with significant cardiac disease, since electrocardiographic monitoring is not usually carried out during therapy and there is, theoretically, danger of induc-

TABLE 2.—Data on Persons Treated with Pulsed (Lindquist) Ultrasonic Machine

Case	Age	Sex	Race	Diagnosis	Remarks
1.	46	F	N	Osteoarthritis of fingers.	Ventricular premature contractions over left carotid at 4 watts.
2.	64	F	W	Hypertension (Blood pressure ranged from 158/88 to 170/90 mm. mercury).	
3.	53	M	W	Osteoarthritis.	
4.	71	F	W	Tendonitis of shoulder.	Cough over right carotid at 8 watts.
5.	74	F	W	Hypertension (Blood pressure ranged from 150/82 to 180/110 mm. mercury).	Cough over right carotid at 6 watts; left carotid at 6 watts.
6.	66	F	W	Hyperthyroidism. Hypertension (Blood pressure ranged from 180/88 to 200/90 mm. mercury).	
7.	58	F	N	Auricular fibrillations with premature contractions.	
8.	34	F	W	Rheumatic heart disease, with mitral stenosis and auricular fibrillation.	Ventricular premature contractions over right carotid at 6 watts and over a left carotid at 6 watts.
9.	72	F	W	Aortic insufficiency with ventricular premature contractions.	Cough over both carotids at 6 watts.
10.	28	F	N	Normal.	
11.	58	F	W	Left ventricular hypertrophy. Hypertension (Blood pressure ranged from 150/100 to 170/120 mm. mercury).	
12.	67	M	W	Chronic coronary insufficiency.	
13.	64	M	W	Auricular fibrillation.	Premature contractions over left carotid at 6 watts.
14.	49	F	W	Lupus Erythematosus.	
15.	53	F	W	Slight left ventricular hypertrophy. Hypertension (Blood pressure ranged from 120/100 to 150/104 mm. mercury).	
16.	52	M	W	Right ventricular hypertrophy. Hypertension (Blood pressure ranged from 130/90 to 145/110 mm. mercury).	Cough over right carotid at 4 watts.
17.	48	F	N	Hemiplegia.	

ing a run of ventricular premature systoles or ventricular fibrillation.

As to the dermal reactions, apparently they are a matter of idiosyncrasy. In two of five patients with this reaction, the complaint was noted in both the carotid sinus and stellate ganglion areas. It also seemed that once the burning sensation was evoked, the threshold was further lowered in the individual, and it was surmised that anticipation may be a fac-

tor in discomfort at dosages the patient might ordinarily tolerate.

The occurrence of cough in several cases when the carotid sinus area was sounded leads us to believe that the cough reflex is stimulated via the superior laryngeal nerve. If this assumption is correct, it implies that ultrasound can stimulate a peripheral nerve.

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Medial Epicondylitis

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THE GREAT DEAL that has been written about the condition known as "tennis elbow" or lateral epicondylitis^{1,2} contrasts with the paucity of literature relating to the subject of medial epicondylitis.³ The purpose of this communication is to report observations in a series of recent cases of this condition and to review the subject.

"Tennis elbow" is thought to be brought about by inflammation of the periosteum of the lateral condyle or a partial tear of the conjoined tendon of the extensor muscles. It is believed that a similar condition sometimes occurs on the medial side of the elbow involving the medial epicondyle and the conjoined tendon of the flexor group. The flexor group is composed of the pronator teres, the flexor carpi radialis, the palmaris longus and the flexor carpi ulnaris. Both these conditions are caused by constant minor trauma and tension of the tendon attachment to the epicondyles.

The clinical features observed in the 11 cases that are the basis of this report were:

The patient usually complained of pain about the elbow with radiation up and down the arm.

Decided local tenderness was noted over the medial epicondyle and the conjoined tendon of the flexor group, without evidence of swelling or erythema.

Pain was evoked by resisted flexion of the wrist and by pronation.

Patients noticed weakness of grip.

In no case was abnormality of blood or urine associated with the disease. The elbow in all cases was roentgenographically normal.

TREATMENT

In the present series the pain and symptoms subsided when the following treatment was given: First local injection of the epicondyle and the conjoined tendon with 2 cc. of one per cent lidocaine hydrochloride (Xylocaine®) and 25 mg. of hydrocortisone in the same syringe, making sure that both the tendon and the periosteum were so treated; then warm soaks of the elbow on the following day. In a few cases it was necessary to apply a volar mold for several weeks with the wrist in the position of function, the mold being removed daily for hot soaks of the elbow and then reapplied with an Ace bandage.

In the more severe cases—those that do not respond to conservative therapy—surgical operation consisting of stripping the tendon from the epicondyle may be indicated.

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Submitted October 10, 1958.

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Stretching of the Sciatic Nerve

A Means of Relieving Postoperative Pain Following Removal of Ruptured Lumbar Intervertebral Discs

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THE OPERATION to relieve lower back and neuritic pain due to a ruptured spinal intervertebral disc by removal of the displaced nuclear material and decompression of the affected nerve root is gratifying in the majority of cases. However, in some instances the postoperative course may be unsatisfactory due to the persistence of either lower back pain or pain radiating into the lower extremity along the distribution of the sciatic nerve. The back pain is more common but rarely the patient may remain incapacitated due to persisting "sciatic pain." The present discussion will be confined to the latter group.

There may be various causes for the occurrence of or failure to relieve lower extremity pain following the removal of an extruded nucleus pulposus. A fragment of nuclear material may remain wedged in the intervertebral foramen, causing persisting pain and other symptoms indicative of irritation and compression of the nerve root. Reexploration and removal of the offending fragment is the only effective treatment. "Sciatic pain" may persist when the nerve root is compressed by the adjacent bone if the facet has been fractured after a wide decompression. Or there may be collapse of the intervertebral space and compression of the root in a narrowed foramen. In some cases none of these causes for persisting pain can be found upon reoperation, and in such instances the pain usually is ascribed to the formation of adhesions about the nerve root, either intradurally or extradurally. The fact that sciatic pain can result from such adhesions was forcefully brought to our attention in 1951, when we treated the first patient by the method to be described.

REPORT OF A CASE

A 37-year-old housewife injured her back in 1948 when she fell down a flight of five steps. The injury was followed immediately by severe lumbar pain which subsequently extended down the posterior lateral aspect of the left thigh to the calf. Because she did not respond to conservative treatment, in-

• Stretching the sciatic nerve for the relief of "sciatica" was frequently employed before 1900 and was subsequently abandoned, probably because it was done without sufficient scrutiny of the indications. The procedure has recently been employed in cases in which "sciatica" remains following the operative removal of ruptured intervertebral discs, and it has been instrumental in relieving postoperative "sciatica" when the cause was the formation of adhesions about the lumbar nerve roots. If the nerve root is compressed by recurrent disc protrusion or by adjacent bone, the manipulation usually increases the pain, a phenomenon that has been helpful from a diagnostic standpoint.

cluding two weeks of bed rest, bilateral leg traction and subsequent immobilization of the back in a plaster cast, a lumbar laminectomy and posterior spinal fusion were performed at another hospital.

The patient had temporary improvement in both the back and the leg pain but approximately two months postoperatively when she became more active she had a recurrence of severe pain in the leg. It was notable that when she was in the recumbent position the leg pain was relieved completely but as soon as she sat or stood for 15 or 20 minutes the pain would become so severe that she would have to lie down. During the succeeding year and a half the patient's activities were extremely limited and she spent a good deal of time in bed. Further bilateral leg traction provided no relief. A course of deep roentgen-ray therapy to the lower back was also ineffective.

The patient was admitted to the University of California Hospital in January, 1951. There it was noted that the only way in which she could obtain comfort was by lying supine with the left leg flexed. Jugular compression aggravated the discomfort in the lower limb and there was local tenderness in the lumbar spine. Raising the left leg without bending the knee produced severe pain at 10° from the horizontal, and the Lasègue sign was strongly positive. The left quadriceps, posterior tibial and peroneal muscle groups were weak. The Achilles reflex was absent on the left. Hypalgesia was present, involving the fourth and fifth lumbar and the first sacral dermatomes on the left. A lumbar myelogram demonstrated an extradural filling defect at the left fourth and fifth lumbar interspaces.

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Operation was done and a solid fusion from the third lumbar to the first sacral vertebra was present. The fifth lumbar nerve root was exposed at the fourth and fifth lumbar interspaces with some difficulty. The root was compressed by the bone graft posteriorly and anteriorly by a small piece of extruded nuclear material lying beneath the nerve root in the intervertebral foramen. In the procedure to decompress the nerve root a rent was made in the dura, which resulted in the escape of cerebrospinal fluid.

The patient's postoperative convalescence was satisfactory and the pain was completely relieved after three days. She remained well for ten weeks, when the same pain extending into the left lower extremity developed. She had no recurrence of back pain but again was unable to stand for more than 10 to 15 minutes without severe pain in the leg. A fluctuant mass was palpated at the site of the wound, and it was believed that a false meningocele had developed because of the tear in the meninges at the previous operation. This was confirmed at reexploration. The fifth lumbar nerve root was found at the bottom of the false meningocele, imbedded in scar tissue. The dural defect was repaired with polyethylene film and the meningocele was repaired. Again the patient's postoperative convalescence was satisfactory and she had complete relief of pain for two and a half months. Then, however, pain in the left lower extremity recurred as before and became progressively worse. By the time of her third admission to the hospital, seven months after the previous operative procedure, she was again forced to remain in bed for most of the day. She was still entirely free from back pain.

Reexamination at this time showed improvement in the sensory disturbance first noted, as well as some persisting weakness of the left anterior tibial musculature and an absent Achilles reflex on the left. The straight leg raising without pain was limited to 5° from the horizontal.

In view of the fact that while quiet and recumbent the patient had no pain but did have severe pain in the leg when she moved either the back or the leg in any way that caused movement of the sciatic nerve roots, we reasoned that if the nerve root could be stretched it might allow increased movement of the leg and back without producing pain. Consequently, under general anesthesia the sciatic nerve was stretched by forcible straight leg raising accompanied by strong dorsiflexion of the foot. The patient had an immediate decrease in the amount of pain. Two more manipulations were performed at intervals of two days. After the third and last manipulation the patient was completely relieved of discomfort, remained well and carried on a normal, active life.

In the succeeding seven years 40 additional patients were similarly treated. Of this group, 30 had had previous operative removal of ruptured intervertebral discs and in 12 of the 30 a posterior spinal

fusion had been performed. Twenty-one of the 30 patients had had reoperation when pain persisted but dense adhesions about the nerve roots were the only abnormalities noted.

The results of the sciatic stretching procedure were gratifying in these 21 patients. Nine patients of the 30 were treated by this technique before reexploration. The results were good in two cases but in the remaining seven the symptoms were not relieved. Subsequent reexploration in these seven patients demonstrated that a nerve root was involved by either recurrent protrusion of the disc or by the adjacent osseous structures. In every instance the manipulation increased the pain when the cause was compression of the nerve root by recurrent disc protrusion or bone. Similarly, in the remaining ten cases in which the procedure was carried out before any operative treatment, the manipulation and presumed stretching of the nerve root aggravated the symptoms. These patients had "sciatic pain" without back pain and had equivocal myelograms but in each instance subsequent operation disclosed compression of the nerve root by a bulging intervertebral disc. We have concluded, therefore, that if the nerve root is already compressed and stretched over a bulging disc, primary or recurrent, or if it is compressed by the adjacent bone, the pain will be increased by the manipulative procedure. In a sense this has been a useful diagnostic test.

The relief of pain has been satisfactory in the cases in which the nerve root was involved only by adhesions. One patient has been kept comfortable and at work by periodic manipulations at yearly intervals after three operative procedures with lysis of adhesions had failed to give significant relief.

Sciatic stretching can be carried out as a "come-and-go" procedure. The patient is placed in a supine position. Analgesia is produced by preliminary inhalation of nitrous oxide, following which the patient is put to sleep and muscular relaxation is obtained by the intravenous injection of sodium pentothal and a skeletal muscular relaxant. An assistant immobilizes the pelvis, and the affected extremity is then forcibly extended with simultaneous dorsiflexion of the foot. The leg is extended to or slightly beyond 90°.

DISCUSSION

Nerve stretching for the relief of pain is not a new or original procedure. Marshall⁵ said that operative stretching of the sciatic nerve for the relief of pain was first introduced in 1872. He credits Billroth with the first operative procedure in which the sciatic nerve was exposed in the upper thigh and directly stretched for the relief of pain. Subsequently there were many case reports^{1,2,4,7,8} of this procedure in the treatment of "sciatica."

Mills and Deaver⁶ described the operation as follows: "The nerve was exposed by an incision just below the gluteal fold. A strong, flat, curved hook was inserted beneath the nerve, which was stretched first in one direction and then the other. The stretching was completed by suspending the entire leg for a moment by the hook placed under the nerve."

Marshall noted that in addition to the open operation the nerve could be stretched by bending the leg upon the body, then straightening the knee and simultaneously flexing the foot upon the leg. This technique, he said, "... can produce extraordinary strain and tension upon the sciatic nerve as it passes out of the pelvis." This, of course, is the procedure which we have employed, but in these early cases stretching was usually accompanied by an open procedure.

Before 1900 considerable experimental work was done in an effort to study the effect of stretching upon the structure of nerves and to elucidate the possible reasons that stretching relieved pain. Nerves nearer the spinal cord were found to be more extensible than those at a distance. The diameter of the nerve was reduced and individual axone sheaths were found to be narrowed with stretching. The myelin sheaths were seen to be segmented while the axis cylinders remained intact. As the stretch was increased, the sensory fibers were affected before the motor fibers.

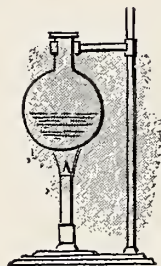
Marshall,⁵ Horsley³ and others suggested that the relief of neuritic pain by stretching a nerve was due to disruption of the "nervi nervorum" which are

small, naked nerve fibers seen chiefly in the perineurium and to a lesser extent ramifying in the endoneurium of a mixed peripheral nerve. They considered these small fibers to be the sensory "nerve" to the peripheral nerve and implicated them in the transmission of pain from a nerve when there is inflammatory neuritis or when there is extrinsic compression and irritation of the nerve. When the nerve is stretched, as by sciatic stretching, the *nervi nervorum* are disrupted and therefore can no longer transmit painful impulses from the nerve itself. It is interesting that anatomic texts published before 1900 described the presence of *nervi nervorum* but texts today do not; nothing has been written about this interesting concept since the work of these early authors.

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Food Hypersensitivity

Correlation of Intradermal Skin Tests with Clinical Allergenicity

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THERE HAS BEEN a considerable difference of opinion as to the value of skin tests in the study of problems of hypersensitivity to foods. Rowe and Rowe⁵ said that "the fallibility and errors in skin testing in the diagnosis of food sensitivity must be emphasized." They also said that "intradermal tests with foods are not done routinely because of the indefinite moderate or slight reactions which may occur that are not associated with clinical sensitivity." Randolph³ discarded the use of skin tests entirely. Sheldon⁶ said: "A great amount of confusion has arisen regarding how to evaluate reactions to the food skin tests, and many physicians have become so discouraged with skin tests to foods that they no longer perform these tests. Clinical experience has shown that even among children only about 20 per cent of positive skin reactions to foods can be correlated with actual clinical symptoms produced by the ingestion of the incriminated foods."

For the past 18 years the senior author has studied food sensitivity problems by means of elimination diets. The initial base "allergy diet" was prepared after due consideration was given to the patient's history, avoidance of common food allergens, and avoidance of foods that caused positive reaction on intradermal skin tests.^{1,2,4,5,6} In order to correlate the efficacy of the intradermal food skin tests with allergenicity, the following study was made.

METHODS

1. Evaluation of clinical reactivity

Following a period of freedom or almost complete relief of symptoms, each new food was added, one at a time, once or twice a day for four consecutive days in order to observe the clinical effect of each. If evidences of a flare-up of allergic symptoms occurred, and other variables had been fairly well controlled, the new food was eliminated from the diet and considered a suspected allergen. At a later date, the suspected food was tried again and tests with it were repeated for at least three or more times, unless for other reasons the food was considered

• A study was made to determine how well the results of skin tests for sensitivity to various foods agreed with observation of clinical reactions to those foods.

Test reactions were divided into several categories—negative, and 1, 2, 3 or 4 plus. Then the strong reactions, that is the 3 and 4 plus reactions, the milder reactions and the negative results were studied separately to determine the agreement of results, in each category, with the clinical response. Wide variations were noted. For some foods the agreement was high, for others low. For some foods, the agreement was high in some categories of reaction, low in others. For example, negative results of skin test might match with nonreaction to the food clinically in a high proportion of cases, and 3 or 4 plus reaction to skin test might be in close agreement with the incidence of distress upon ingestion of the food, yet for the same food there might be very poor correlation between mild reaction to skin test and clinical response. This being the case, accuracy of skin tests cannot be determined simply by combining all data on reactions, of whatever degree, and taking the aggregate of agreement in all categories as an index of the validity of the test. Each category of reaction must be considered separately.

Combined data and categorized data on accuracy of skin tests for sensitivity to 26 foods were tabulated in the present study.

more definitely reactive. If no reaction occurred after a feeding trial of four consecutive days, the food was considered innocuous and was included as a part of the diet; then a new food was studied. The details of these studies have been published elsewhere.^{1,2}

2. Source of allergenic extracts

In most instances, glycerinated extracts obtained from Hollister-Stier Co. were used. Many of the aqueous extracts were made in our laboratory according to the methods outlined in Unger's text.⁷

3. Method of testing

All skin tests were performed intradermally, usually on the outer aspect of the arms, but occasionally on the back or thighs. A small wheal was raised, usually using .05 cc. or less of antigen.

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4. Interpretation of skin tests

The skin tests were graded negative, one plus, two plus, three plus, and four plus.

A reaction was considered four plus when there was a wheal 20 mm. or more with pseudopods and an erythematous flare. A three plus reaction was a 15 mm. wheal and flare with or without pseudopods.

A one plus reaction showed a small wheal and slight flare. The two plus reaction was intermediate between the one plus and the three plus. The "control reaction"—that is, the response to intradermal injection of a placebo—was either no reaction or slight erythema. If the patient had a one plus reaction to the control injection, the skin tests were graded relative to the control. In the few instances in which this was necessary, reactions were not called a three or four plus unless they were of considerably greater degree than those described above for those categories.

5. Evaluation of results

In the present study some 1,500 charts were reviewed and 325 of them were accepted for analysis in an attempt at correlation of intradermal food skin tests with clinical reactions. A clinical reaction was considered to have occurred if any one of the following criteria were met:

- Repeated trial caused a consistent flare-up in clinical symptoms.
- The diary record pointed clearly to certain foods.
- Interrogation of patients who had been under careful study from three months to several years resulted in the clear-cut identification of food allergens.

Slight clinical reactions were disregarded. In cases where tests were repeated several years later on the same patient, the results were recorded as though they were from two separate patients. In some instances there were positive reactions to foods that formerly had caused no response, and vice versa.

RESULTS

Data on the correlation of clinical sensitivity with reaction to skin tests with various foods are given in Tables 1 and 2. It should be noted that in many persons with 3 and 4 plus skin reactions no correlated clinical evaluation was done. This omission was either because there was fear that the person tested was very allergic to the food in question or the results of the clinical trials were not conclusive enough to fit our criteria.

From the data in Tables 1 and 2 the authors have made the following observations as to the degree of accuracy of skin tests with various food extracts,

as judged by the percentage of cases in which the test reaction and the clinical observation were in agreement:

- *Egg white*: An 87 per cent correlation between negative result of test and clinical nonsensitivity; 82 per cent correlation with clinical response when skin test was 3 or 4 plus; 50 per cent when 2 plus; 37 per cent when 1 plus. If the 1 plus is considered a negative reaction, the negative correlation is 84 per cent.
 - *Wheat*: A 90 per cent correlation with the negative test, 56 per cent correlation when 3 or 4 plus, and practically no correlation when 1 or 2 plus.
 - *Pork*: 70 per cent correlation with the negative test, and 50 per cent when positive to any degree from 1 plus to 4 plus. Not enough cases in the 3 to 4 plus group were evaluated clinically to permit conclusions.
 - *White potato*: Negative reaction and 3 to 4 plus reactions were highly accurate in relation to clinical reactions. Reactions of 1 or 2 plus must be considered negative.
 - *Rice*: 97 per cent correlation with negative results; 71 per cent correlation with 3 or 4 plus reactions. Reaction of 1 or 2 plus should be considered negative.
 - *Chocolate*: 96 per cent to 100 per cent correlation in any degree of positive from 1 to 4 plus, but only 55 per cent when negative.
- From the general data in Table 1 and the selected data in Table 2 with regard to certain foods, the following observations can be made:
- There were 31 patients who were hypersensitive to corn. The negative results of tests agreed with the clinical response in 71 per cent of cases, but the number of subjects who had clinical reaction and also 3 to 4 plus reactions to skin tests was too small for conclusions in that area. (Eleven patients with 3 and 4 plus reactions were not evaluated clinically.) The fact that the accuracy was 58 per cent with 1 plus reactions and only 30 per cent with 2 plus reactions shows clearly the hazard of drawing conclusions with only a few patients. Therefore, the 63 per cent accuracy as given in the overall correlation, is not trustworthy. No conclusion about corn can be made from these data.
 - *Orange*: 64 per cent correlation with negative reaction, and 55 per cent with 2, 3 or 4 plus reaction. A reaction of 1 plus should be considered negative. There were not enough "clinical positives" in the 3 plus and 4 plus skin test groups for statistical validity. (No clinical evaluation was done in seven cases in which skin reactions were 3 or 4 plus.)

TABLE 1.—Data on Agreement of Skin Tests for Sensitivity to Various Food Allergens with Clinical Response to Ingestion of the Foods

Name of Food	Combined Data on Correlation, All Categories			Data on Correlation of Negative Reactions			Data on Correlation of Positive Reactions—3+ and 4+			No. of Cases of 3+ and 4+ Not Compared Clinically			Data on Correlation of Positive Reactions—1+ and 2+		
	Correlation	No. Correlation	Percentage Correlation	Correlation	No. Reactions	Percentage Correlation	Correlation	No. Reactions	Percentage Correlation	Correlation	No. Correlation	Percentage Correlation	Correlation	No. Correlation	Percentage Correlation
Egg white.....	148	39	79	127	19	87	9	2	82	14	12	21	36		
Wheat.....	124	51	71	97	11	90	9	7	56	12	6	31	16		
Pork.....	55	28	66	43	18	70	1	1	50	7	11	10	52		
White potato.....	114	44	72	102	5	95	8	4	67	19	5	29	14		
Rice.....	76	20	79	71	2	97	5	2	71	10	3	14	18		
Chocolate.....	42	23	65	16	13	55	4	0	100	7	23	1	96		
Corn.....	61	36	63	52	21	71	2	1	67	11	8	14	36		
Orange.....	58	44	57	49	28	64	2	1	67	7	8	14	36		
Banana.....	72	34	68	60	11	85	1	1	50	8	13	22	37		
Tomato.....	56	35	62	40	17	70	2	2	50	16	10	21	32		
Spinach.....	23	14	62	18	1	95	3	2	60	9	3	10	23		
Shrimp.....	10	10	50	4	1	80	5	1	83	19	2	7	22		
Beef.....	100	51	66	99	8	93	0	5	0	7	1	39	25		
Lamb.....	53	21	72	54	2	96	0	4	0	9	5	14	28		
String bean.....	77	21	79	75	7	91	1	3	25	3	4	10	28		
Pineapple.....	45	14	76	23	8	74	0	1	0	5	3	5	38		
Milk.....	94	74	56	69	27	72	5	7	42	10	19	41	32		
Chicken.....	84	41	67	81	9	90	1	2	33	10	4	29	12		
Green pea.....	50	24	69	46	4	92	2	1	67	6	6	18	25		
Asparagus.....	51	6	89	49	1	98	0	0	0	11	1	6	14		
Oatmeal.....	53	19	74	53	3	94	0	0	0	12	2	15	12		
Carrot.....	101	25	80	98	4	96	0	1	0	10	1	19	5		
Grapefruit.....	34	18	65	40	4	86	0	0	0	8	4	13	23		
Sweet potato.....	38	12	76	37	5	88	0	0	0	9	1	7	13		
Corn meal.....	11	7	61	8	5	61	0	0	0	20	2	3	40		
Rye flour.....	14	9	61	13	1	93	0	3	0	15	1	5	17		

TABLE 2.—Data on Correlation Between Mild Reaction to Skin Test with Food Antigens and Clinical Response to Ingestion.

	Reaction					
	One Plus			Two Plus		
	Correlation	No Correlation	Percentage Correlation	Correlation	No Correlation	Correlation Percentage
Egg white.....	8	13	37	5	5	50
Wheat.....	5	19	21	0	12	0
Pork.....	8	7	53	3	3	50
Corn.....	7	5	58	3	7	30
White potato.....	0	14	0	0	11	0
Rice.....	0	13	0	2	6	25
Tomato.....	3	16	16	7	7	50
Shrimp.....	2	5	28	0	2	0
Milk.....	9	23	28	10	18	35
Orange*.....	4	10	28	3	3	50
Banana*.....	5	17	23	9	6	60

*When 2+, 3+, and 4+ figures are added together the percentage of correlation for orange is 55 per cent; for banana, 58 per cent.

- *Banana*: 85 per cent correlation when negative, and 58 per cent when skin reaction was 2, 3, or 4 plus. A reaction of 1 plus should be considered negative. There were not enough "clinical positives" in the 3 and 4 plus skin reaction group to warrant conclusions. (Eight patients with 3 and 4 plus skin reactions were not tested clinically.)
- *Tomato*: 70 per cent correlation of clinical condition with negative dermal reaction, and about 50 per cent with dermal reactions of 2 plus, 3 plus or 4 plus. A reaction of 1 plus should be considered negative. (Sixteen patients with 3 and 4 plus reactions were not evaluated clinically for tomato sensitivity.)
- *Spinach*: Correlation 95 per cent when reaction was negative and 60 per cent when reaction was 3 or 4 plus. Here a reaction of 1 or 2 plus would be better considered negative. (Nine patients with 3 and 4 plus skin reactions were not evaluated clinically.)
- *Shrimp*: Correlation 80 per cent when dermal reaction was negative, and 83 per cent when reaction was 3 or 4 plus. A 1 plus or 2 plus reaction should be considered negative. (Nineteen patients with 3 and 4 plus skin reactions were not evaluated clinically.)

It may be noted in Table 1 that results of dermal tests with beef, lamb, string bean and pineapple antigens correlated poorly with the clinical response to ingestion. This might be taken to suggest these extracts apparently serve no useful purpose in intradermal skin testing. Yet if only the aggregate of correlation in all brackets—negative and 1, 2, 3 and 4 plus—were considered, the skin tests with these antigens would appear to be informative. For example, as to beef the aggregate of skin test results in all categories was in agreement with the clinical condition in 66 per cent of cases. This was entirely because of high correlation of negative results, however, for there was no agreement at all on the positive side.

TABLE 3.—Strength of Allergen Material Used in Skin Tests for Hypersensitivity to Certain Foods in Past Several Years.

Egg white	1 to 100	Green pea	1 to 25
Milk	1 to 100	Asparagus	1 to 15
Wheat	1 to 100	Oatmeal	1 to 100
Beef	1 to 50	Carrot	1 to 15
Chicken	1 to 100	Tomato	1 to 10
Pork	1 to 100	Spinach	1 to 25
Corn	1 to 100	String bean	1 to 50
White potato	1 to 25	Pineapple	1 to 25
Rice	1 to 100	Grapefruit	1 to 1
Orange	1 to 25	Sweet potato	1 to 100
Banana	1 to 100	Corn meal	1 to 100
Chocolate	1 to 50	Rye flour	1 to 100
Lamb	1 to 100	Shrimp	1 to 100

Correlation of skin sensitivity to milk, chicken, green pea, asparagus, oatmeal, carrot, grapefruit, sweet potato, corn meal, and rye flour could not be satisfactorily correlated with clinical sensitivity, as there were not a sufficient number of persons who had clinical sensitivity to these foods.

There were a number of factors that may have brought about errors in the present study:

1. In our office, an attempt is made to get a base line of symptoms so that reactions to new foods as they are added to the diet can be judged more accurately. Therefore in the present study many positive and negative tests were not included because no clinical observation to correlate with them had been made. Also in many cases of 3 plus and 4 plus dermal reactions, clinical testing for response to ingestion of the food in question was foregone simply because of suspicion that the food was highly allergenic and might cause severe trouble.

2. Errors of patient in reports or in mistaking one food allergen for another.

3. Failure to take into account minor allergens and intermittent food sensitization.

4. Changes in a patient's reaction to skin tests. (This phenomenon is surprisingly infrequent and the degree of change limited.)

5. Varying concentrations of test material. The

strength of preparations was changed from time to time over the years in an attempt to improve the validity of tests. Table 3 shows the strength of the skin test materials as used for the past several years.

6. New sensitizations at times developed. For example, in some instances the skin test reaction was positive but the patient had no hypersensitivity response to ingestion; then later clinical sensitivity did develop.

7. In some patients correlation is better than it is in others.

DISCUSSION

An analysis of results obtained from the many records studied, clearly shows that it is not sufficient to correlate results of intradermal tests and the clinical results of ingestion on a simple showing of how often negative agrees with negative and positive with positive. Such a method does not take into account the fact that some foods cause allergic response in a high proportion of people, whereas other foods affect relatively few persons in that way. The accuracy of a dermal test can be properly evaluated only if a relatively large number of persons are sensitive to the food in question. Frequently, strongly positive dermal test reactions are in close agreement with clinical observations, whereas reactions of only 1 or 2 plus are not reliable as indicators of clinical sensitivity.

It was therefore necessary to consider the positive results of skin tests in separate categories: Pronounced reactions, that is, the 3 and 4 plus reactions; and the milder reactions, 1 and 2 plus. The negative results also were studied separately. Tests with egg white correlated well with the clinical response when the result was either negative or showed a 3 or 4 plus reaction. When the reaction was 1 plus, it could be considered a negative result, whereas a 2 plus reaction had a 50 per cent degree of reliability. Taking the test results with egg white in all categories together—nonreaction and all four degrees of reaction—the correlation with clinical response was 79 per cent. Negative results correlated with clinical nonreaction in 87 per cent of cases. The

accuracy was 82 per cent with a 3 plus or 4 plus reaction; with 1 plus and 2 plus reactions the accuracy was 36 per cent.

The 1 and 2 plus reactions to tests with wheat must be considered the same as negative. Yet if the degree of skin reaction were disregarded and only its combined results of negative reactions and all positive reactions were considered, the test results would agree with clinical response to wheat in 71 per cent of cases. It is true that the tests showed a 90 per cent accuracy when the reaction was negative and 56 per cent when the reaction was 3 or 4 plus, but the accuracy of only 16 per cent for the 1 and 2 plus reactions warps the aggregate statistics. Much the same condition obtained with regard to beef antigen: In aggregate the data showed accuracy of 66 per cent, but this was largely owing to a very high agreement between negative tests and nonreaction clinically, which offset poor agreement in all degrees of positive skin test result.

We believe that skin tests with food substances are of great practical value so long as the limitations are recognized and the varying degrees of accuracy as between different substances and the variations in accuracy from one degree of reaction to another are borne in mind. No correlation between food skin tests and clinical response is complete unless the correlation is broken down into the several components as indicated in the foregoing.

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CASE REPORTS

Tracheotomy in a Case of Tracheobronchitis Secondary to Influenza

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ALTHOUGH DEATHS from secondary infection within the chest were less prevalent during the recent Asian influenza epidemic than was the case during the pandemic of 1918-1919, the number of patients who died of that cause was still considerable. According to Herrmann and co-workers,¹ laryngeal, tracheal and bronchial inflammatory changes in 23 patients who died during the recent epidemic were greater than is usual in patients who die suddenly of acute respiratory inflammation before medical attention can be provided.

Nothing could be found in the literature on the use of tracheotomy in patients with severe tracheobronchitis complicating influenza. In the case here presented, the procedure probably was life-saving.

CASE REPORT

The patient, a 71-year-old white man, was admitted to Santa Teresita Hospital in Duarte on January 16, 1958, with high fever, severe dyspnea and a dry cough. A few days previously, the patient's wife had had "flu"; and the description of her illness was consistent with this diagnosis. Two days before admission, the patient had developed fever, a nonproductive cough, sore throat and headache. Self-medication with aspirin afforded no relief. The following day he became much worse. The temperature rose to 104°F., nausea and vomiting (without hematemesis) developed, and the patient became mentally confused and very dyspneic.

Ten years previously the patient had had symptoms suggestive of myocardial infarction. At that time he was confined to bed for several months and retired from work. The patient said that the final diagnosis was "myocardial instability." Bilateral inguinal herniorrhaphy and left orchidectomy had been done three years before the present illness without complication. The patient denied any history of respiratory infection, productive cough or abnormality in x-ray films of the chest. He had smoked three packages of cigarettes daily for approximately fifty years, but he quit completely at the time of the cardiac episode.

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Upon physical examination the patient was observed to be acutely ill and moderately dyspneic. Well developed and well nourished, he appeared somewhat younger than his stated age. The oral temperature was 102°F., the pulse rate 84 and respirations 38 a minute. He was somewhat confused and apprehensive, and his breathing was more labored than would seem necessary, for his color was good. The skin was hot and dry. Bilateral grade 3 arcus senilis was noted but the pupils were round and equal in size, and they reacted normally to light. The patient had complete dentures. The oral pharynx was moderately red. The chest was somewhat increased in the postero-anterior diameter, but there was normal expansion for a patient of this age. The lung fields were resonant throughout. Moist sticky rales were heard over the right middle lobe. Blood pressure was 160/80 mm. of mercury and the pulse was regular. No cardiac enlargement, murmurs, or gallops were noted. The heart tones were of good quality. The spleen and liver were not enlarged. Knee jerks were absent but the Babinski reflex was not evoked. No cyanosis, clubbing or edema was noted.

The hemoglobin content was 15.4 gm. per 100 cc. of blood. Leukocytes numbered 11,000 per cu. mm.—90 per cent neutrophils, 8 per cent lymphocytes and 2 per cent monocytes. The specific gravity of the urine was 1.021 and the reactions for albumin and sugar were negative. Microscopic examination of the urine showed 8 to 10 pus cells per high power field, 2 to 30 hyaline casts and a heavy shower of coarse granular casts. The results of serologic tests were negative for syphilis. An electrocardiogram two days after admittance was normal except for sinus tachycardia and nonspecific ST depression.

A diagnosis of influenza complicated by pneumonia was made, and the patient was treated with rest in bed, large doses of aspirin, oxygen by mask and chlorpromazine to control nausea, vomiting and anxiety. X-ray examination of the chest (Figure 1) showed mild homogeneous increase in density throughout the right middle lobe, which was interpreted as pneumonia. The rectal temperature dropped to normal during the night but rose to 102°F. the following afternoon. Although fewer rales were noted over the right lung at this time and the patient appeared less dyspneic, treatment with chloramphenicol was begun. The dosage was 0.25 gm. every six hours, and the temperature be-



Figure 1.—X-ray film showing mild increase in density throughout right middle lobe, interpreted as pneumonitis.



Figure 2.—X-ray film taken after tracheotomy, interpreted as showing generalized bronchopneumonia, both lungs.

came normal on the fourth day of therapy. An x-ray film then showed almost complete resolution of the previously noted pneumonitis. As the number of leukocytes had decreased to 3,500 per cu. mm., chloramphenicol was discontinued January 20.

The patient remained afebrile for the next few days, but oxygen was continued because of obvious dyspnea. During this period an increasing number of coarse rhonchi were heard over both lung fields, but the patient was unable to expectorate much sputum. Because bronchospasm was considered as a possible cause of dyspnea, intermittent positive pressure was tried in conjunction with inhalation of nebulized solutions of superinone (Alevaire) and isoproterenol hydrochloride (Isuprel). Aminophylline also was administered by injection and per rectum. Neither these measures nor increasing hydration with intravenous fluids loosened the material in the bronchi. To control the bronchitis, tetracycline, 250 gm. every six hours, was begun on January 22, but the course of the illness was not altered. Congestive failure was not a factor in the dyspnea, for it was not relieved by therapeutic trial of meralluride sodium (Mercurhydrin) 2 cc. intramuscularly, which resulted in only mild diuresis.

It was assumed that if the thick mucus in the patient's bronchi could be loosened or aspirated satisfactorily, dyspnea probably would be relieved. The possibility of bronchoscopy was considered but rejected because obviously it could be of only temporary benefit and could not be repeated often enough to keep the bronchi cleared. Tracheotomy seemed the obvious method of choice, but as the patient was afebrile and still apparently in good

general condition, there was no clear indication for it.

Early on the morning of the eleventh day, the patient's condition suddenly became worse. The systolic blood pressure dropped to 102 mm. of mercury and cyanosis appeared. The pulse rate was 140, and the temperature reached 104°F. Obviously, respiration had to be improved quickly. After rapid digitalization a tracheotomy tube was inserted under local anesthesia and the trachea and large bronchi were cleared by suction. A specimen of the material removed was taken for microscopic examination and culture. Within a few minutes, cyanosis decreased and other signs of decided clinical improvement were noted, although an x-ray film of the chest taken the day after tracheotomy was interpreted as showing bronchopneumonia generalized throughout both lungs (Figure 2).

At first, aspiration was necessary every few minutes to remove large quantities of very tenacious and ropy sputum from the trachea and major bronchi; but as the patient's condition improved, the sputum decreased in quantity. Each aspiration was followed by immediate lessening of dyspnea.

Immediately after the placement of the tube and before reports on the sputum studies were received, penicillin, streptomycin and chloramphenicol were administered. On microscopic examination of the sputum many large, Gram-positive cocci were seen in pairs and in tetrads. Culture of the material grew *Staphylococcus aureus*, coagulase positive. Except for a slight sensitivity to neomycin and a tetracycline-novobiocin combination (Panalba) these bacteria were highly resistant to all antibiotics. When the results of the sensitivity studies were known (the day after operation) Panalba therapy was added.

At the time of operation the hemoglobin content of the blood was 13.6 gm. per 100 cc. Leukocytes numbered 9,900 per cu. mm.—73 per cent neutrophils, 1 per cent eosinophils, 14 per cent lymphocytes and 7 per cent monocytes. Carbon dioxide content was 75 mg. per 100 cc.; bicarbonate, 74 volumes per cent; chloride, 526 per 100 cc.; sodium, 294 mg. per 100 cc.; potassium, 15.5 mg. per 100 cc.; urea nitrogen, 13 mg. per 100 cc.

For the first three postoperative days, the pulse rate ranged from 100 to 120, episodes of gallop rhythm of the heart were frequent and the patient showed moderate confusion. Fever gradually subsided and the temperature became normal on the fourth postoperative day and remained normal. By the fifth day after tracheotomy, all rales had disappeared from the lung fields and the opening was closed intermittently for longer periods each day. The tube was removed on the eighth postoperative day, and the wound edges were approximated with adhesive tape. The cell contents of the blood on the eighth and the thirteenth postoperative days were within normal limits. An x-ray film of the chest on February 12 (the seventeenth postoperative day) showed almost complete resolution of the bronchopneumonia.

On February 13 the spleen was palpated and bacterial endocarditis was suspected, but a culture of the blood and the subsequent clinical course did not support the suspicion. On February 14, the patient felt so well that he demanded immediate discharge. He was permitted to return home, and when seen in the office a week later he said that for a few days after discharge from the hospital his memory had been poor but later had returned to normal. Except for some paleness, the patient appeared in good health. The lungs were clear to percussion and auscultation. A specimen of blood was obtained on February 21 and complement-fixation (performed by the Los Angeles City Department of Health) showed that Influenza A titer was greater than 1:1024 and Influenza B titer was less than 1:8.

DISCUSSION

The high titer of antibodies to Influenza A and the classical clinical course of the illness in this patient during a known epidemic of influenza constitute fairly conclusive evidence that the primary illness was influenza. However, whatever the cause, similar clinical conditions—that is, thick, tenacious mucus which cannot be raised by other methods and is causing the patient respiratory embarrassment—should be recognized as an indication for bronchoscopy and possibly tracheotomy.

Nelson and Bowers² recently published a report of 310 cases in which tracheotomy was employed. Although in all the earlier cases of the series (1947) the procedure was performed because of mechanical ventilatory obstruction, by 1955 some 77 per cent of the tracheotomies were done because of secretional ventilatory obstruction. These investigators suggested that tracheotomy should be used more

widely, but in none of the 310 cases included in their report was the operation done because of primary pulmonary infection. Of course, tracheotomy is employed in acute laryngotracheobronchitis of infants and in diphtheria, but in both of these conditions the procedure is used because of an upper tracheal or laryngeal block. In the case discussed in this report, tracheotomy was performed primarily to make it possible to aspirate the mucus which blocked the trachea and bronchi and which already had resulted in extensive bronchopneumonia; the increase in vital capacity through decrease in dead space above the tracheotomy was of secondary importance. If tracheotomy had been done earlier, perhaps bronchopneumonia could have been avoided.

As was stated previously, Herrmann and co-workers,¹ in postmortem examination of patients who had died of respiratory failure associated with the Asian influenza epidemic, observed that laryngeal, tracheal and bronchial inflammatory changes were greater than were to be expected. In some cases, the entire laryngotracheobronchial tree was inflamed, and thick, semi-solid mucus caused partial to complete obstruction. In the majority of cases excessive secretions, often thick, ropy and tenacious, were noted. These conditions were quite similar to those in the present case. On admission to hospital the patient recovered rather quickly from pneumonitis but then tracheobronchitis gradually developed and accumulation of thick, tenacious mucus resulted in bronchopneumonia—very likely by blockage of the smaller bronchi. Death was prevented by aspirating this thick mucus, which the patient had been unable to cough up.

The question as to when tracheotomy should be done in pulmonary infection is primarily a clinical one. In any patient who has severe bronchitis with thick mucus which cannot be raised by the usual measures, if the clinical course is becoming worse despite adequate antibiotic administration, the use of tracheotomy should be considered.

SUMMARY

A case of influenza complicated by tracheobronchitis and bronchopneumonia in a 71-year-old man is described. Tracheotomy was performed and made possible satisfactory aspiration of the trachea and major bronchi, thereby saving the patient's life.

Tracheotomy should be considered in all cases of severe tracheobronchitis when response to the usual treatment is not satisfactory.

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Adenocarcinoma of the Rectum with Metastasis to the Nail-Bed of the Finger

BERNARD J. DRURY M.D., Santa Barbara

ADENOCARCINOMA OF THE RECTUM with metastasis to the nail-bed of the finger has never been listed in the literature. In fact, only one other metastatic lesion at the nail-bed has been reported, and that case, one of chorionepithelioma, has been described three times.^{1,6,7} Lichtenstein reported a case in which a lesion metastatic from the colon involved the phalanx primarily rather than the nail-bed.

The most comprehensive recent review of metastatic tumors of the hand was by Kerin,⁴ in 1958. In most of the 23 cases he reviewed the primary lesions were in the lungs. Other primary sites were the breast, kidney, bladder, uterus, parotid gland, prostate and lymph nodes. The distal phalanx was the principal point of destruction in the hand. Perhaps, more of these bony changes would be found if the hand were included in skeletal studies when search is being made for metastatic spread.

As in the case being reported at this time, none of the lesions reported in Kerin's review were correctly diagnosed until a histological study was done. All were mistaken for osteomyelitis, paronychia or felon. This was because of the pain, swelling and erythema about the end of the finger.

Brason² reported a primary squamous cell carcinoma of the nail-bed which was misdiagnosed as an infection because of the pain, swelling and redness. It should be kept in mind that primary carcinoma of the skin and malignant melanoma also may originate in this same area.

Because of the continued misdiagnosis of these serious lesions in the distal aspect of the hand, any inflammatory condition about the distal phalanx, which persists in spite of adequate medical and surgical care, should be studied histologically.

If the lesion is found to be metastatic a palliative procedure should be performed in an effort to relieve the patient from discomfort and inconvenience from this portion of the generalized disease.

REPORT OF A CASE

A 75-year-old retired rancher was referred because of "an infection" of the distal aspect of the right ring finger. Two months previously he had injured the finger while raising a garage door and the nail became blackened. A physician removed the subungual blood by drilling the nail and the operative area became infected. The nail was removed. Soon afterward a growth appeared on the tip of the nail and gradually increased in size.

On examination a large granular growth about the size and appearance of a normal raspberry was observed at the tip of the right ring finger. When touched, the lesion bled freely. The nail area was



Figure 1.—Roentgenogram showing the soft tissue swelling and the tumor in the area of the nail-bed. No destructive process is seen in the distal phalanx. The opaque material about the periphery of the nail is due to previous treatment with silver nitrate.

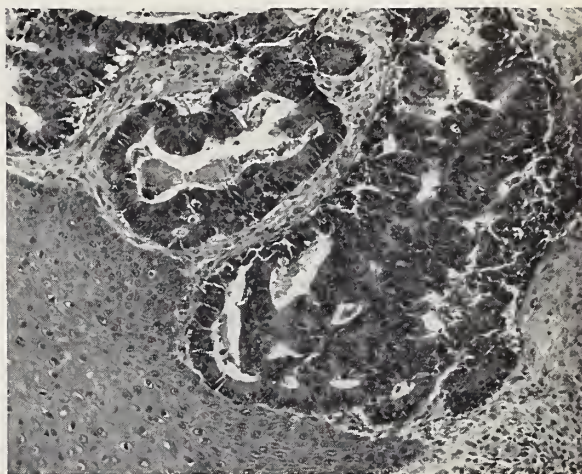


Figure 2.—Photomicrograph showing adenomatous tissue which was present in the mass at the base of the finger nail (X100).

quite tender to palpation and the end of the finger was painful, swollen and hot.

X-ray films of the right ring finger showed considerable soft tissue swelling most pronounced dorsally at the distal phalanx. There was low grade osteoarthritic change in the interphalangeal joint. However, there was no destructive finding noticed in the bone or joint. In x-ray studies of the lower thoracic and lumbar spine, the pelvis and hips, no signs of metastasis were seen.

A year and a half previously the patient had had abdominoperineal resection and colostomy because of adenocarcinoma of the rectum. An x-ray film of the chest taken a month before the present illness showed both lung fields riddled with innumerable round nodules measuring from a few millimeters to as much as 1 cm. in diameter. These were interpreted as being due to metastatic spread from the rectum. No destructive changes were noticed in the ribs.

A tentative diagnosis of pyogenic granuloma was made and the tumor was excised from the nail area. The distal three-quarters of the phalanx was re-

From the Sansum Medical Clinic and Santa Barbara Cottage Hospital, Santa Barbara.

Submitted February 2, 1959.

moved and a palmar flap brought dorsalward. The pathological diagnosis was metastatic adenocarcinoma to the finger.* Postoperatively the operative site healed slowly, possibly because of exfoliative dermatitis that developed about the hands due to penicillin which had been administered preoperatively.

Even after the pathological diagnosis was made, the dissection and amputation was thought to be sufficient, at least in this case, since the patient already had metastatic lesions in the lungs. When last observed, six months after operation, the patient had no recurrence at the operative site.

SUMMARY

In a review of the literature only one report of a metastatic tumor at the nail-bed was found. The present case is one in which an adenocarcinoma metastatic to the nail-bed of the right ring finger was removed in the belief the lesion was a pyogenic granuloma. The primary lesion was in the rectum. It is probable that metastatic lesions of the hand

*E. L. Benjamin, M.D., and Delbert R. Dickson, M.D.

Laceration of the Profunda Femoris Artery Complicating Fracture of the Shaft of the Femur

CHARLES E. WORKMAN, M.D., Pasadena, and
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MANY COMPLICATIONS may follow fractures of the shaft of the femur. Vascular injuries are relatively common and the diagnosis of laceration of the femoral artery is usually obvious. An unusual case is here described in which severe hemorrhage from the profunda femoris artery necessitated ligation of the artery. Because this complication may be easily overlooked we were led to review the anatomy of the artery (Figure 1).

"The profunda femoris artery," said Grant,¹ "may arise from the lateral aspect of the femoral artery at the level of the inguinal ligament, in which case two main arteries enter the limb; or it may arise 4 inches below the inguinal ligament, in which case but one artery traverses the femoral triangle; usually (75 per cent of cases, Quain) it takes origin between one and two inches below the ligament. It is only slightly smaller than the continuation of the femoral artery itself, and is therefore no mean vessel."

REPORT OF A CASE

In the present case, the patient, a man 23 years of age, was admitted to the emergency room about two hours after having been involved in an auto accident.

When examined, he was oriented and alert. The

Submitted January 27, 1959.

are occurring more often than has been reported, for the hand is not thought of as a site of metastasis. Inflammation of the nail area that persists despite treatment should be biopsied.

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pulse rate was 132 and the blood pressure was 160/80 mm. of mercury. Moderate angulation and swelling of both thighs was noted. The left thigh was more swollen than the right. The patient was perspiring and pale and his skin was clammy. He received 1000 cc. of whole blood, 250 cc. of dex-

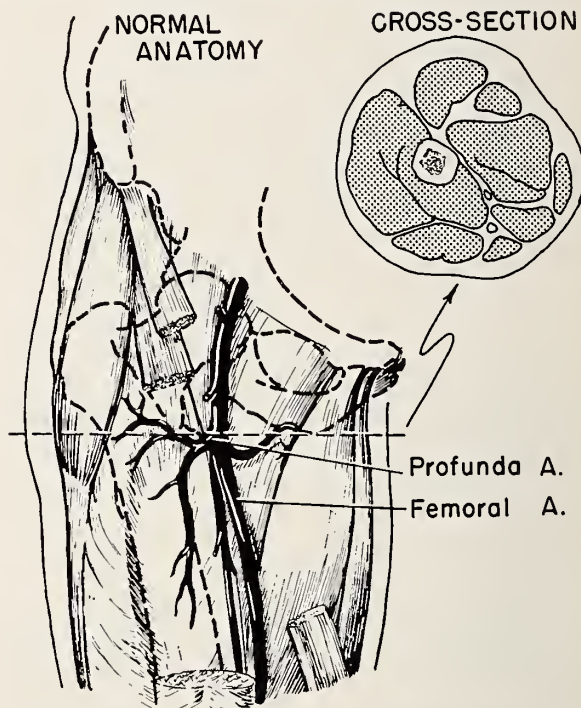


Figure 1.—Anatomic details showing branching of the profunda from the femoral artery.



Figure 2.—X-ray film showing fractures of left and right femurs in present case.

tran, and 250 cc. of 5 per cent glucose in water intravenously and his condition improved. X-ray examination showed a fracture of the right femur, subtrochanteric and fracture of the left femur approximately at the junction of the upper and middle one-third (Figure 2).

Steinman pins were inserted into the tibial crests and the legs were placed on Boehler frames. Soon after the patient was admitted to the ward the left thigh became much more swollen and he complained of numbness over the lateral calf and dorsum of the foot. The pulse rate was 160 and the blood pressure was 100/50 mm. of mercury. The dorsalis pedis and posterior tibial pulsations remained good. Because of the evidence of massive continuing bleeding into the left thigh the patient was taken to the surgery and exploratory operation on the left thigh was carried out. The profunda femoris artery was found to be completely severed near its origin from the femoral artery (Figure 3). The patient received a total of 4000 cc. of blood on the first hospital day. On the next day he became mentally confused and petechial hemorrhages were noted in the axillary areas. The clinical diagnosis was fat embolism. The general condition of the patient gradually improved over the next several days. X-ray films showed the left femur in satisfactory position. As it was impossible to obtain adequate reduction of the subtrochanteric fracture of the right femur by closed methods, open reduction was performed and the fragments fixed in position with a nail plate combination. When there was clinical evidence of early union the patient was placed in a double hip spica. The fractures of both of the femurs solidly united and there was no impairment of function.

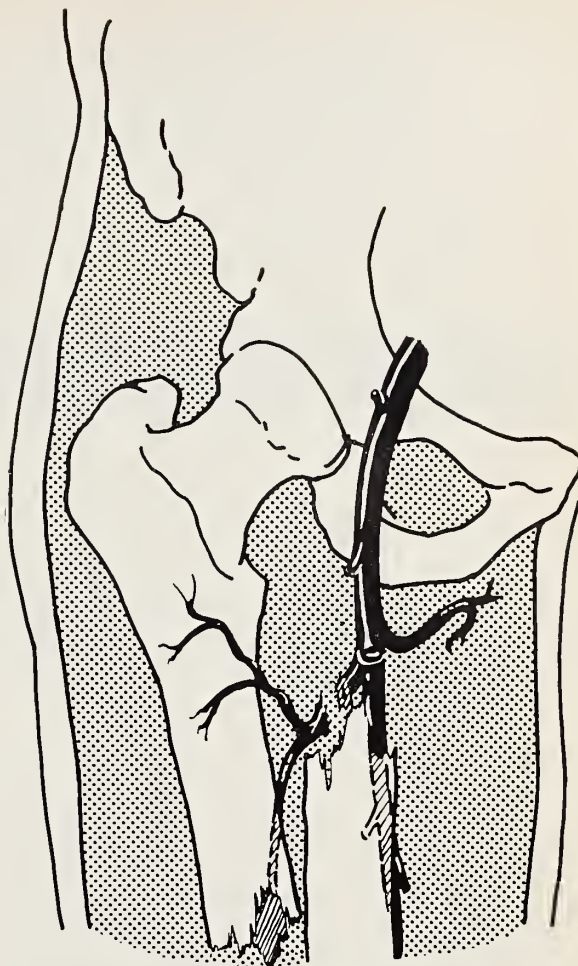


Figure 3.—Drawing showing fracture of the femur with injury to the profunda femoris artery in present case.

This case report emphasized the following factors:

1. Severe hemorrhage may follow injury to the profunda femoris artery.
2. The artery is likely to be injured in fractures of the upper one-third of the femur.
3. The hemorrhage may be so severe that the artery must be ligated.
4. The diagnosis may be made preoperatively on the basis of three cardinal signs: (a) Unusual swelling of the thigh following fractures of the femur or other injuries of the upper thigh; (b) an undiminishing dorsalis pedis and posterior tibial artery pulsation; (c) swelling that progresses after elevation of the extremity.

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

The A.M.A. Meeting

ADJOURNMENT of the 1959 Annual Session of the American Medical Association signaled the close of a meeting which should be a source of pride in accomplishment to California Physicians, to their elected leaders and to their elected representatives in the A.M.A. itself.

A Californian, Dr. E. Vincent Askey, was elected President-Elect of the A.M.A., and the philosophy of the Council of the California Medical Association was adopted by the House of Delegates of the A.M.A. in two important fields of discussion, namely, osteopathy and free choice of physician.

In the election for president-elect, the A.M.A. found itself forced to choose between two candidates of unquestioned merit and ended by voting decisively in favor of Dr. Askey, a Los Angeles surgeon who served in the C.M.A. House of Delegates, as a councilor and president of the Los Angeles County Medical Association and later in similar posts in the C.M.A. Dr. Askey also served the C.M.A. as vice-speaker and later as speaker of the House of Delegates, two posts which he later held in the A.M.A.

From the number of seconding speeches following Dr. Askey's nomination, as well as from the applause which greeted the announcement of his election, it is obvious that the leaders of American medicine are confident they have chosen a top officer who has all the talents, the capacity, the interest and the ability to represent the profession for the next two years. Vince's many friends in California wholeheartedly share this evaluation and wish him every success in his new and important duties.

On the question of free choice of physicians, the A.M.A. finally decided a question which had been held in abeyance since last December's meeting. In December it became obvious that the delegates who were called upon to vote on this knotty problem

had not had opportunity for adequate study of the many facets of the question. Accordingly, action was postponed until the June session and copies of the report of the Commission on Medical Care plans were made available to all physicians.

At the same time, the commission asked each state association to voice its thoughts on the free choice question, especially with regard to whether or not the stand-pat attitude of a flat espousal of free choice of physician should remain inflexible and unalterable.

The Council of the California Medical Association, mindful of the patient and his welfare, answered this question by asserting its belief in the right of the individual to choose or to change his physician and its support of the individual in his exercise of this right. The decision of the A.M.A. House of Delegates followed this philosophy to the letter, in the following language: "The American Medical Association believes that free choice of physician is the right of every individual and one that he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care, and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

The House of Delegates also went on record as favoring a recommendation of the Commission on Medical Care Plans which recognized the right of the individual who receives medical care benefits as a result of collective bargaining to have "the widest possible choice from among medical care plans for the provision of such care." While this decision has drawn criticism from some quarters as knuckling under to closed-panel or other types of medical organizations, the A.M.A. decision seemed to be made as a frank recognition that

medical care today is being supplied under a variety of programs which find greater or lesser support from some segments of the population. Where the individual is given the right to select his own type of plan, the right to select a closed-panel group cannot be denied with any sense of consistency of thought.

On the matter of osteopathy, the deliberations of the House of Delegates and its reference committees made it obvious that the question hinged on whether or not more osteopaths should be produced.

One school of thought would encourage the better professional training of osteopaths through permitting doctors of medicine, ethically, to teach in osteopathic schools and thus improve the level of education of osteopaths. On the other side, a number of advocates urged that such teaching be done only in those osteopathic schools which are in process of converting themselves into recognized schools of medicine and whose graduates will be doctors of medicine who were taught by doctors of medicine, rather than doctors of osteopathy.

The latter philosophy, espoused by the California

delegation and most ably presented by two California delegates, prevailed in the A.M.A. This opens the doors for negotiations looking toward the production of additional physicians through approved medical schools in those few states, including California, where osteopathic physicians and surgeons are now being trained. Discussions of this proposal have been held in California for the past two decades and the present action of the A.M.A. should spur positive action from this point forward.

In additional actions, the A.M.A. House of Delegates again affirmed its stand against compulsory inclusion of self-employed physicians under Social Security laws and went on record as urging legislative action to eliminate cancer quackery. In both these actions the A.M.A. affirmed actions previously taken by the California Medical Association.

Neither California nor any other state has the right to claim that the A.M.A. acted upon its own provincial philosophy or urging. At the same time, it is comforting to know that the physician leaders of the country share the thinking which has developed within our own borders and that we are not left in the position of Jim, the only man in step.

A Win at Short Odds

FORM PLAYERS who put their hopes on California's E. Vincent Askey to become President-Elect of the American Medical Association had to accept short odds because their favorite's record of performance at any weight, in all track conditions and from any position in the field is so widely known. Heavy track or fast, front-running or closing, his record is one to give confidence.

In California we have had the opportunity, and the pleasure, of seeing him in one important post after another in his county and state medical association. We have watched him with admiration through the days of the first great struggle against state-dominated medicine in California. We have

rejoiced that his talents were recognized on the national scene of organized medicine, first in a tangible way by his election as Vice-Speaker of the House of Delegates of the American Medical Association, then as Speaker. We could not but be proud that physicians the nation over then could see him as his home-folks always saw him—able, persuasive, sagacious, fair, analytical, friendly, hard-working.

Last month Vincent Askey became President-Elect of the American Medical Association. Our pride in his election stems in little, to be sure, simply from chamber-of-commerce provincialism, but in greater measure it is born of knowledge that he is a mighty good man for the job.

California MEDICAL ASSOCIATION

The A.M.A. President-Elect



E. VINCENT ASKEY, M.D.

DR. E. VINCENT ASKEY of Los Angeles, formerly president of the Los Angeles County Medical Association and the California Medical Association, has been made President-elect of the American Medical Association.

This son of Pennsylvania (1895), a graduate of Allegheny College and the Medical School of the University of Pennsylvania in 1921, served his internship and residency in Philadelphia at the Episcopal Hospital and the Kensington Hospital for Women. Turning naturally to his chosen field of surgery he has been since that time for 35 years in the private practice of surgery in Los Angeles. His professional competence is indicated by his certification by the American Board of Surgery, Fellowship in the American College of Surgeons

and his membership on the surgical staff of St. Vincent's Hospital.

Recognition of his leadership in professional activities repeatedly has been given him by his colleagues and by his old alma mater, Allegheny College, which last year granted him the honorary degree of Doctor of Science.

Early in his career in the practice of surgery Vincent Askey took an active part in the Los Angeles County Medical Association and subsequently in the California Medical Association. Besides serving both organizations as president, he early showed those unusual abilities which led him to be elected vice-speaker and then speaker of the House of Delegates and a member of the Council and Executive Committee of the California Medical Association. His skill in parliamentary procedure and his possession of the qualities of leadership caused his associates to elect him to the House of Delegates of the American Medical Association in 1944 and for 15 years he has ably served in this capacity. It is not surprising that the members of the House of Delegates of the A.M.A. recognized in him also the same qualities and abilities and elected him vice-speaker in 1952 and speaker in 1955.

Vince's qualities of leadership and his skill in medical organization have thus led him to continued participation in county, state and national medical organizations as an elected official for over 25 years.

What are the qualities which have led Vincent Askey to his present position of leadership in medicine in this country? Invariably patient and a gentleman, he has always been able to persuade other men by simply predicting what can be expected as a result of certain actions, and never by telling them

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what to do. His sponsorship of a project not only insures its success but also marks it as a project in the public interest. This qualifies him as a medical statesman. He has shown constant support and enthusiasm for young physicians and perhaps most of all faith in America and his fellow physicians and pride in his chosen profession of medicine. As speaker of the House of Delegates of the A.M.A. he has proved himself honest, sincere, fair, friendly, dignified and the possessor of unusually good judgment. At the proper moments he has not been one to sit back passively but has proven himself to be a fighter for his and medicine's rights. A diplomat as well as an expert in parliamentary procedure, he has been in the judgment of many members of the

House the best speaker of the House of Delegates of the A.M.A. in modern times.

As a person Vince has shown himself to be a good husband, a good father and friend and to possess all those qualities that mark the true physician. American medicine can look to and be proud of the leadership he will provide with his personal qualities, his experience of importance in medical societies and his understanding of the private practice of medicine.

Dr. Askey will be installed as president of the A.M.A. at the annual meeting in June, 1960 in Miami succeeding Dr. Louis M. Orr of Orlando, Florida. He will be the American Medical Association's 114th president since 1847.

Actions of the A.M.A. House of Delegates

This skimming and skipping report on the proceedings of the House of Delegates of the American Medical Association at the Atlantic City meeting covers only a few of the many important subjects dealt with by the House and is not intended as a detailed report on all actions taken.

THE REPORT of the A.M.A. Commission on Medical Care Plans, relations between medicine and osteopathy, the report of the Committee on Preparation for General Practice and the issue of compulsory Social Security coverage for self-employed physicians were among the major subjects which brought important policy actions by the House of Delegates at the American Medical Association's 108th annual meeting held June 8 to 12 in Atlantic City.

Another highlight of the meeting was the appearance of President Dwight D. Eisenhower, who addressed an overflow audience of more than 5,000 at the Tuesday night inauguration of Dr. Louis M. Orr of Orlando, Florida, as the 113th president of the A.M.A. It marked the first time that a President of the United States has addressed an A.M.A. annual or clinical meeting.

Dr. E. Vincent Askey of Los Angeles, speaker of the House of Delegates since 1955, was named president-elect for the coming year. Dr. Askey will succeed Dr. Orr as president at the association's annual meeting in June, 1960, in Miami Beach.

The 1959 Distinguished Service Award of the American Medical Association was voted to Dr. Michael E. DeBakey of Houston, chairman of the department of surgery at Baylor University College of Medicine, for his outstanding contributions in the field of cardiovascular surgery. Dr. DeBakey received the award at the Tuesday night inaugural ceremony.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 28,225, including 12,921 physicians.

Eisenhower Address

President Eisenhower, speaking at the inaugural ceremony in the ballroom of Convention Hall, warned that inflation posed the greatest danger to the traditional, free enterprise practice of medicine. The cost of inflation, he said, "is not paid in dollars alone but in increasingly stagnated progress, lost opportunities, and eventually, if unchecked, in lost freedoms for the doctor and the patient." Mr. Eisenhower also expressed gratification at learning of A.M.A. leadership in the program to meet the health care needs of the aged.

Commission on Medical Care Plans

The House of Delegates received Part I of the report of the Commission on Medical Care Plans as information only and then acted upon the commission recommendations item by item. The House adopted 36 of the recommendations without change, but rewrote three which relate to miscellaneous and unclassified plans. The changed recommendations now read as follows:

B-4. "In an effort to decrease, or at least to prevent an increase in, the over-all cost of health care, study should be given to the removal of the requirement of hospital admission as the only condition under which payment of certain benefits will be made."

B-6. "Medical care plans should be encouraged to increase their efforts to provide health education and information concerning the coverage of their subscribers."

B-16. "The American Medical Association be-

believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

In connection with free choice of physician, the House also requested the Board of Trustees to transmit to all constituent medical associations the "far-reaching significance" of Recommendation A-7, which says:

"'Free choice of physician' is an important factor in the provision of good medical care. In order that the principle of 'free choice of physician' be maintained and be fully implemented, the medical profession should discharge more vigorously its self-imposed responsibility for assuring the competency of physicians' services and their provision at a cost which people can afford."

The House also strongly endorsed Recommendation B-11, which declares that "Those who receive medical care benefits as a result of collective bargaining should have the widest possible choice from among medical care plans for the provision of such care."

Many of the commission recommendations urged increased activity by state and county medical societies and the American Medical Association in such fields as continuing study and liaison, closer attention to legal and legislative factors, and the development of guides for the relationship between the medical profession and the various types of third parties. To carry out three of the recommendations involving A.M.A. activities, the House also approved a seven-point program which it requested the Board of Trustees to transmit to the Division of Socio-Economic Activities for immediate attention.

Medicine and Osteopathy

In considering a special report of the Judicial Council on the subject of osteopathy, the House adopted the following policy statement regarding interprofessional relations:

"(a) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical.

"(b) Enactment of medical practice acts requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations and graduate from schools approved by the same agency should be encouraged by the constituent associations.

"(c) It shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine

to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the A.M.A. Council on Medical Education and Hospitals.

"(d) A liaison committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including interprofessional relationships on a national level."

In another action concerning osteopathy, the House recommended that the American Medical Association representatives on the Joint Commission Accreditation of Hospitals suggest to the Joint Commission that they inspect upon request and consider for accreditation without prejudice those hospitals required by law to admit osteopathic physicians to their staff.

Preparation for General Practice

The House approved and commended the final report of the Committee on Preparation for General Practice, which proposes a new two-year internship program for medical school graduates planning to become family physicians. To avoid unnecessary confusion, the House deleted only one sentence which read: "Indeed, the committee believes that the one-year internship actually encourages inadequate preparation for general practice." The Committee on Preparation for General Practice included representatives from the A.M.A. Council on Medical Education and Hospitals, the American Academy of General Practice and the Association of American Medical Colleges.

The suggested program would include a basic minimum of 18 months' hospital training in the diagnostic, therapeutic, psychiatric, preventive and rehabilitative aspects of medicine and pediatrics in a very broad sense, including care of the newborn. A physician then could elect to spend the remaining six months for additional training in other segments of the program. The committee stated, however, that participants who plan to practice obstetrics would be expected to spend at least four months of the elective period in obstetrical training.

The report declared that "the graduate program of two years in preparation for family practice should be planned and implemented as a unified whole" with a maximum continuity of assignment in specific services. The program also calls for adequate experience in outpatient care and emergency room service.

Social Security

In considering five resolutions on the subject of compulsory Social Security coverage for self-employed physicians, the House disapproved of four and adopted one reaffirming its opposition to the

compulsory inclusion of physicians. In so doing, the delegates expressed concern over the possible effects that a change of policy might have on the Association's entire legislative program, particularly with respect to the Forand Bill.

The House also recognized "the apparent growing demand by physicians for economic security" and requested the Board of Trustees to investigate the possibilities of developing group insurance and retirement plans which could be made available to Association members. It accepted a reference committee suggestion "that the American Medical Association continue and expand its educational program to inform its members of the economic, social and moral advantages of economic security obtained within the framework of our free enterprise system rather than through the mechanisms of governmental Social Security."

Miscellaneous Actions

In dealing with a wide variety of other subjects, the House also:

- Urged all physicians to participate more fully in community activities and *socio-economic matters* in their own communities but agreed that no change should be made at this time in Article II of the Constitution, which states Association objectives;

- Approved in principle the aims and objectives of the President's Council on *Youth Fitness* and the Citizens Advisory Committee on the Fitness of American Youth;

- Requested the Board of Trustees to study the problems and possibilities of establishing an A.M.A.-sponsored *medical scholarship* and/or loan program;

- Approved the inclusion of *Today's Health* as a benefit of dues-paying membership and urged members to make it available to their patients;

- Recommended that state medical societies, where advisable, initiate legislative efforts to eliminate *cancer quackery*;

- Received a progress report indicating "phenomenal progress" in the field of health insurance coverage for the *aged* since the Minneapolis meeting last December;

- Gave a rising vote of thanks to *Dr. Joseph D. McCarthy*, who finished his term as chairman of the Council on Medical Service;

- Reaffirmed its full support of the Educational Council for *Foreign Medical Graduates*;

- Endorsed the purposes outlined in the initial report of the *Medical Disciplinary Committee*;

- Urged every A.M.A. member to give a substantial gift to the *medical schools* through the American Medical Education Foundation; and

- Expressed appreciation for the outstanding

disaster medicine program presented by the United States Army Medical Service on June 6, 1959, in Atlantic City.

Opening Session

At the Monday opening session Dr. Gunnar Gundersen of La Crosse, Wis., retiring A.M.A. president, stressed the personal responsibility of every physician to keep abreast of medical advancements and to deliver "1959 medicine." Dr. Orr, then president-elect, called for concerted effort and medical leadership in four areas—the costs of medical care, recruitment of dedicated medical students, basic research and health care of the aged. Drs. Carl V. Moore, Busch professor of medicine at Washington University, St. Louis, was presented with the eighth Goldberger Award in clinical nutrition. Smith. Kline and French Laboratories of Philadelphia received a special A.M.A. award for its sponsorship of color medical television over the past ten years.

Inaugural Ceremony

Dr. Orr, in his Tuesday night inaugural address, affirmed his belief in the basic principles of medicine, democracy and faith under which America's physicians live. He pointed out that freedom must continually be fought for by men and women who are willing to stand up and be counted. Dr. Leonard Larson of Bismarck, N. D., A.M.A. board chairman, administered the oath of office to Dr. Orr, and the latter presented the Distinguished Service Award to Dr. DeBakey. The Fort Dix Band Chorus presented the musical program.

Election of Officers

In addition to Dr. Askey, the new president-elect, the following officers were selected at the Thursday session:

Vice-president, Dr. James Stanley Kenney of New York City; speaker of the House of Delegates, Dr. Norman A. Welch of Boston, and vice-speaker, Dr. Milford O. Rouse of Dallas.

Dr. R. B. Robins of Camden, Ark., and Dr. Hugh H. Hussey, Jr. of Washington, D. C., were reelected for five-year terms on the Board of Trustees. Also elected to the board, for the first time, was Dr. Percy E. Hopkins of Chicago.

Dr. J. M. Hutcheson of Richmond, Va., was reelected to the Judicial Council. Reelected to the Council on Medical Education and Hospitals were Dr. Charles T. Stone, Sr. of Galveston, and Dr. W. Andrew Bunten of Cheyenne.

Dr. Willard Wright of Williston, N. D., was elected, and Dr. J. Lafe Ludwig of Los Angeles was reelected to the Council on Medical Service. (Subsequently he was elected chairman.) Dr. William Hyland of Grand Rapids, Mich., was reelected to the Council on Constitution and By-Laws.

CALIFORNIA MEDICAL ASSOCIATION

Annual Meeting

Ambassador Hotel

LOS ANGELES

February 21 to 24, 1960

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than August 21, 1959.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 450 Sutter Street, San Francisco 8, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than September 1, 1959. (No exhibit shown in 1959, and no individual who had an exhibit at the 1959 session, will be eligible until 1961.)

Medical Motion Pictures

The daytime Film Symposiums which proved so popular during the 1959 sessions will be continued in 1960. Evening film programs will be planned for doctors, their wives, nurses and ancillary personnel.

Authors desiring to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline is October 1, 1959.

PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

- ALLERGY Gardner S. Stout, Acting Secretary
39 North San Matea Drive, San Matea
- ANESTHESIOLOGY Roger W. Ridley
5914 Birch Street, Riverside
- DERMATOLOGY AND SYPHILOLOGY Edward L. Laden
301 North Prairie Avenue, Inglewood
- EAR, NOSE AND THROAT Heinrich W. Kohlmoos
426 17th Street, Oakland 12
- EYE Earle H. McBain
1530 Fifth Avenue, San Rafael
- GENERAL PRACTICE Floyd K. Anderson
1233 North Vermont, Los Angeles 29
- GENERAL SURGERY Philip R. Westdahl
490 Post Street, San Francisco 2
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- INTERNAL MEDICINE Charles D. Armstrong
1111 University Drive, Menlo Park
- OBSTETRICS AND GYNECOLOGY John C. McDermott
2010 Wilshire Boulevard, Los Angeles 57
- ORTHOPEDICS Carl E. Horn
2901 Capitol Avenue, Sacramento 16
- PATHOLOGY AND BACTERIOLOGY Robert L. Dennis
675 East Santa Clara Street, San Jose 12
- PEDIATRICS James L. Dennis
5105 Dover Street, Oakland 9
- PHYSICAL MEDICINE Joseph E. Maschmeyer
1720 Brooklyn Avenue, Los Angeles 33
- PSYCHIATRY AND NEUROLOGY Leon J. Whitsell
909 Hyde Street, San Francisco 9
- PUBLIC HEALTH Merle E. Cosand
316 Mountain View Avenue, San Bernardino
- RADIOLOGY Frank C. Binkley
635 East Union Street, Pasadena 1
- UROLOGY Morrell E. Vecki
450 Sutter Street, San Francisco 8

In Memoriam

BINGAMAN, DIXIE McLEAN. Died in Salinas, April 28, 1959, aged 48. Graduate of University of Southern California School of Medicine, Los Angeles, 1939. Licensed in California in 1939. Doctor Bingaman was a retired member of the Monterey County Medical Society and the California Medical Association, and an associate member of the American Medical Association.



BITTNER, LINUS H. Died May 23, 1959, aged 69. Graduate of University of Oregon Medical School, Portland, 1919. Licensed in California in 1928. Doctor Bittner was a member of the Los Angeles County Medical Association.



FISH, EZRA SIMPSON. Died April 5, 1959, aged 72, of heart disease. Graduate of University of Pennsylvania School of Medicine, Philadelphia, 1912. Licensed in California in 1912. Doctor Fish was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



INGBER, IRVING S. Died May 18, 1959, aged 70. Graduate of State University of New York College of Medicine at New York City, Brooklyn, New York, 1913. Licensed in California in 1920. Doctor Ingber was a member of the San Francisco Medical Society.



JAMESON, WINIFRED MITCHELL. Died May 9, 1959, aged 46, of a cerebral hemorrhage. Graduate of University of

California School of Medicine, Berkeley-San Francisco, 1950. Licensed in California in 1950. Doctor Jameson was an affiliate member of the San Francisco Medical Society.



LILES, LESTER M. Died May 18, 1959, aged 85. Graduate of Western Reserve University School of Medicine, Cleveland, Ohio, 1898. Licensed in California in 1915. Doctor Liles was a retired member of the Santa Cruz County Medical Society, a life member of the California Medical Association, and a member of the American Medical Association.



ONESTI, SILVIO JOSEPH. Died October 5, 1958, aged 83. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1899. Licensed in California in 1901. Doctor Onesti was a member of the San Francisco Medical Society.



REMINGTON, AVON CHARLES. Died May 6, 1959, aged 43, of heart disease. Graduate of Harvard Medical School, Boston, Massachusetts, 1940. Licensed in California in 1947. Doctor Remington was a member of the Los Angeles County Medical Association.



STORKAN, JOSEPH CHARLES. Died May 12, 1959, aged 72, of lung cancer. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1914. Licensed in California in 1941. Doctor Storkan was a member of the Los Angeles County Medical Association.



PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, California State Department of Public Health

DETAILED TABULATIONS describing the nearly 200,000 neoplasm cases in the California Tumor Registry will be compiled and produced in the space of four hours by an electronic data processing machine.

The Registry, in the Department's Bureau of Chronic Disease, was granted a special contract in the amount of \$9,909 for the project by the Cancer Chemotherapy National Service Center, National Cancer Institute, U. S. Public Health Service.

Although the IBM 704 will so swiftly perform the millions of calculations necessary to produce a complete set of detailed tabulations, four man-months of intensive programming will be required to instruct the machine, in the finest detail, on what steps to take.

The information will be used in the production of a monograph entitled "Cancer Registration and Survival in California." This will be a detailed account of what is happening to cancer patients in the state, describing the people who get cancer, the sites of the body involved and nature of the cancers, the treatment given to such patients and the prognosis in terms of survival. Because it will be based on the largest number of cancer cases in a single registry in the nation, it will be of great value to the medical-scientific professions.

As of June 30, the Department's Bureau of Tuberculosis Control will discontinue its x-ray case-finding program. The equipment and two x-ray technicians are being transferred to the State Department of Mental Hygiene, which will continue the program within its institutions.

Beginning in 1942 with pilot fluoroscopic and 35 mm. minifilm surveys, which demonstrated a very high prevalence of undiscovered tuberculosis within the state institutions, the Bureau purchased mobile 4x5 x-ray equipment and began annual surveys in 1946 in state hospitals, state prisons and some state colleges.

During this period of time more than one and a half million films were taken, and over 8,000 cases of tuberculosis were discovered. The most striking results of these surveys were noticed in the state mental hospitals where the death rate from tuberculosis was brought down to one-twentieth of what it had been. This was accomplished by segregating

and treating the patients found to have the disease and thus cutting intramural channels of infectiousness.

The need for establishing a system of nationwide reporting of occupational disease, estimated to be in the neighborhood of a half million cases annually, was emphasized at the first meeting of a special committee in a recent Washington, D. C., meeting called by the U. S. Public Health Service.

The lack of adequate statistics on occupational diseases has been a source of constant concern. There is no systematic scheme for reporting occupational diseases on a national scale, no uniformity in scope and enforcement of state compulsory reporting laws, and no uniform methodology whereby available statistics can be presented, coordinated and collated for productive use.

One of the first steps in establishing a nationwide reporting system will be the setting up of an area system encompassing several states as a means of fashioning methods for reporting, with other states added as they are able to contribute their reports. This method of developing nationwide reporting was successfully utilized in the past for birth and death registration, as well as for communicable disease reporting.

It is probable that California, which is considered to have the best occupational disease reporting system in the country, will be asked to participate in the initial reporting area. Members of the special committee are directors of occupational health programs for the state health departments of California, Ohio, Connecticut, Pennsylvania and Tennessee.

When poliomyelitis vaccine became readily available in 1957 immunizations were offered to department employees and dependents. In six sessions sponsored by the California State Employees' Association, Chapter 132, and California Public Health Associates, over 1,300 injections were given at cost.

About one-third of the injections were given to members of employees' families. The program has served 886 persons, with more than 600 receiving their third or fourth poliomyelitis vaccinations in this clinic.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

EACH YEAR the Woman's Auxiliary to the California Medical Association through its various activities—benefits, memorials, dues, cards of appreciation as well as individual contributions — raises money which it turns over to the American Medical Education Foundation for the nation's medical schools. This year the Woman's Auxiliary has contributed \$7,537.22 to A.M.E.F.

The American Medical Education Foundation is a nonprofit, tax exempt organization established in 1951 by leaders in medicine. It is sponsored by the American Medical Association, which pays all its operating costs. Every dollar contributed goes to the medical schools. A.M.E.F. supplies help for undergraduate teaching programs of the 85 approved medical schools of this country. These schools are located in 61 cities in 40 states, the District of Columbia and Puerto Rico. Five of the approved schools are in California.

Annual grants are made to the schools, and the schools themselves determine where the money is most needed. Last year the basic grant was \$5,900 to each four-year school, and to this was added the gifts earmarked for that school by contributors. The two-year schools of basic medical science received grants of \$2,950. Seven of the 85 schools are in this category.

While we strive to raise money for the medical schools, we must also encourage qualified students to enter the medical profession. Dr. Louis Orr, president of the American Medical Association, speaking before the fourteenth National Rural Health Conference at Wichita, Kansas in March, 1959, said:

"The American Medical Association is asking the medical schools to give serious consideration to increased enrollment and expanded facilities. Buildings are not enough, however; there must be qualified students. In 1957 there were 15,137 applicants for 8,631 places in medical schools, and more than 50 per cent of the applicants were not qualified to

enter. One medical school had more than 600 applicants that would not have been accepted in the University of Chicago or Harvard medical schools. We cannot sacrifice quality for quantity. The problem is to persuade qualified and suitable students to enter a training program longer and more expensive than for most of the sciences."

In most cases the medical school will consume 30 to 40 per cent of the budget of the parent university yet enroll less than 10 per cent of the students. The medical student meets only one-fifth of these costs through his tuition in spite of the fact that it is usually the highest tuition asked by the university. Cost of tuition, room and board, books and supplies have an average range of \$1,395 to \$1,958. So there is great need for us to increase our efforts to support A.M.E.F. if we are to prevent government intervention.

A.M.E.F. has grown from less than 2,000 contributors in 1951 to more than 44,000 contributors last year. Responsible for this increase are the state and county chairmen across the country, in both medical societies and auxiliaries, who have conducted campaigns in their areas for the Foundation.

The Woman's Auxiliary's efforts on behalf of the American Medical Education Foundation accounted for a large share of the funds collected. The Woman's Auxiliary to the A.M.A. contributed \$126,000 last year.

This year the National Auxiliary has offered award "certificates of achievement" to the top three counties in each state with the highest per capita contribution. The counties winning in California were Shasta-Trinity, Humboldt and Stanislaus.

This steady increase in contributions and interest, combined with a substantial increase in our membership this coming year, could make 1959-1960 a banner year for A.M.E.F. in California.

MRS. THEODORE A. POSKA
*President, Woman's Auxiliary to the
California Medical Association*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

A research grant for investigation of a new method of diagnosing quiescent pyelonephritis was awarded recently to Drs. Robert I. Boyd and Yale J. Katz, both of the faculty of the University of Southern California School of Medicine, by the National Kidney Foundation.

RIVERSIDE

Dr. John Peterson was installed as president of the Riverside County Medical Association, succeeding Dr. Herman Stone, at the annual meeting last month. The new president-elect is Dr. John J. Sheehy. Dr. Donald Abbott was reelected secretary-treasurer.

SAN FRANCISCO

Dr. Maurice Eliaser, Jr., San Francisco, was seated as president of the California Heart Association at the recent annual meeting of the organization in Long Beach.

Dr. Mitchel D. Covell of Beverly Hills became president-elect and Drs. Hilliard J. Katz, San Francisco, Milo K. Tedstrom, Santa Ana, and Elwood Ennis, San Francisco, were elected vice-presidents.

* * *

A special issue of the American Journal of Ophthalmology, a *festschrift* containing tributes to his accomplishments in medical education and the study of diseases of the eye, was dedicated to Dr. Frederick C. Cordes, chairman of the Department of Ophthalmology in the University of California School of Medicine, upon the occasion of his retirement from the faculty.

Contributing articles to the *festschrift* were several distinguished ophthalmologists and associates at U.C., among them President Emeritus Robert Gordon Sproul. Scientific papers in the special issue were contributed by researchers at several American medical centers and in Geneva, Vienna, Rome, London and Western Australia. Several of the authors received their postdoctoral training under Dr. Cordes.

Cancer Treatment Under Medicare

A barrier to prompt hospitalization and treatment of suspected or proven malignant disease in patients under the Medicare program was removed by an interpretation of policy rendered by the office of the Surgeon General of the Army at the request of the California Medical Association.

Such patients, the Office for Dependents' Medical Care said, are considered acutely ill and it is recognized that there is no time to be lost.

"When, in the opinion of the cognizant medical authority, treatment is urgently required, and performed in a hospital without delay, immediately upon discovery of the condition, such care should not be considered plannable," the Office for Dependents said. "These cases will be considered payable at Government expense when certified by the charge physician in accordance with ODMC Letter No. 6-59, and provided the care is otherwise authorized (i.e., Medicare Permit when required.)"

Dr. Francis L. Chamberlain, associate professor of medicine, University of California, San Francisco, was honored with a certificate of honorary fellowship by the American College of Cardiology at the recent annual meeting of the college in Philadelphia.

* * *

Dr. Seymour Farber of San Francisco became president of the American College of Chest Physicians at the annual meeting last month in Atlantic City. Dr. Elmer C. Rigby, Los Angeles, was reelected regent of the college for the California-Arizona-Utah district.

SANTA CLARA

Dr. Frederick G. Gillick, dean of Creighton University School of Medicine, has been appointed medical director of Santa Clara County, effective August 1. The new director will succeed Dr. Milton Chatton, who resigned the post last fall.

INDUSTRIAL ACCIDENT COMMISSION ORDER RAISES FEE ON SEVEN ITEMS

After hearing presentations made by the California Medical Association's Commission on Medical Services, the Industrial Accident Commission has ordered increases in seven items of the Official Minimum Medical Fee Schedule. The changes become effective October 1, 1959, and during the first year they will apply to injuries that occur after the effective date. Then from October 1, 1960, onward they will apply to all injuries whenever they may have occurred.

The increased schedules on the seven items that are to be changed are as follows:

Code Number	Visits	New Fee*	Present Fee
	First		
0000	Office visit	\$6.00	\$ 5.00
0001	Home visit	7.50	7.00
0002	Hospital visit	6.50	6.00
	Subsequent		
0008	Office visit	3.75	3.25
0009	Home visit	6.00	5.00
0010	Hospital visit	4.00	3.50
	Miscellaneous Services		
1003	Assisting at operation, fee to be paid directly to the assistant: First hour or fraction thereof	12.50	10.00

*Effective October 1, 1959, on all covered injuries occurring on or after that date. After October 1, 1960, applies to all covered injuries regardless of date of occurrence.

(Physicians doing industrial practice may wish to clip out the new schedule and paste it in the orange covered Official Minimum Medical Fee Schedule booklet.)

GENERAL

The American Goiter Association again offers the **Van Meter Prize Award** of \$300 to the essayist submitting the best manuscript of original and unpublished work concerning "goiter—especially its basic cause." The studies so submitted may relate to any aspect of the thyroid gland in all of its functions in health and disease. The award will be made at the Fourth International Goiter Conference in London, England, July 5-9, 1960, where a place on the program will be reserved for the winning essayist if he can attend the meeting. For 1960, the recipient of the Award will receive consideration for an award of a travel honorarium. The deadline for manuscripts is January 1, 1960. Full particulars may be obtained from the secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany 10, New York.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Nurse-Patient Relationships. (Camarillo State Hospital) Tuesdays and Thursdays, July 14 through August 13. Thirty hours. Fee: \$25.00.

Workshop for School Nurses: The Nurse in the School Health Program. Monday through Friday, July 20 through 31. San Diego. Fifty hours. Fee: \$35.00.

Infertility. Friday and Saturday, July 24 and 25. Twelve hours. Fee: \$60.00.

The Impact of Surgery on Anesthesia. Wednesday, Thursday and Friday, August 5, 6 and 7. Eighteen hours. Fee: \$60.00.

Three Summer Seminars at University of California Residential Conference Center, Lake Arrowhead (all fees at Lake Arrowhead include room and board):

Pediatric Cardiology. Sunday through Wednesday, August 16 through 19. Fifteen hours. Fee: \$137.50.†
Guest speaker: John Lind, M.D., Stockholm, Sweden.

Emotional Problems in Office Practice. Wednesday through Sunday, August 19 through 23. Fifteen hours. Fee: \$150.00.†

Seminars in Internal Medicine. Sunday through Wednesday, August 23 through 26. Fifteen hours. Fee: \$137.50.†

Development and Principles of Industrial Nursing. Thursdays, September 10 through January 28. Forty-five hours. Fee: \$35.00.

Teaching Clinics. Thursdays, September 17 through December 10. Twenty-four hours. Fee: \$50.00. (No meeting November 26.)

† Limited enrollment.

Common Problems of the Foot. Friday and Saturday, September 18 and 19. Nine hours. Fee: \$35.00.

Industrial Health (Public Health). Tuesdays, September 22 through December 8. Thirty hours. Fee: \$25.00.

Public Health Statistics. Wednesdays, September 23 through February 3 (omitting December 23, 30). Forty-five hours. Fee: \$35.00.

Practical Clinical Chemistry for Laboratory Technologists. Wednesdays, September 23 through November 11. Twenty-four hours. Lecture and laboratory fee: \$35.00 plus \$5.00 breakage; lecture only \$20.00.

Beginning Medical Terminology. Thursdays, September 24 through February 11 (omitting November 26, December 24, 31). Forty-five hours. Fee: \$35.00.

Medical Terminology: Advanced. Dates to be announced. Forty-five hours. Fee: \$35.00.

Hypertension. Saturday, September 26. Six hours. Fee: \$20.00.

Diagnostic Parasitology for Laboratory Technologists. Tuesdays, September 29 through December 15. Thirty-six hours. Fee: \$40.00.

Advanced Clinical Electrocardiography. Tuesdays, October 6 through December 8. Twenty hours. Fee: \$60.00.†

Two-Week Rehabilitation Nursing Workshop. Daily, October 19 through 30. Thirty hours (plus). Fee: \$25.00.

Aviation Medicine. Wednesday, Thursday and Friday, October 28, 29 and 30. Eighteen hours. Fee: \$65.00.

Photomicrography. Mondays, November 2 through December 7. Twelve hours. Fee: \$30.00 plus \$2.00 for manual.

Ear, Nose and Throat. Friday and Saturday, November 13 and 14. Twelve hours. Fee: \$60.00.

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Workshop on In-Service Education Programs. Monday through Thursday, August 3 through 6. Fee: \$20.00.

Internal Medicine—A Selective Review. Saturday through Wednesday, September 12 through 16. Thirty-five hours. Fee: \$20.00 per day.

Obstetrical Complications. Thursday through Saturday, September 17 through 19. Eighteen hours. Fee: \$50.00.

Medicine for General Practitioners (evening series). Tuesday, September 22 through November 17. Eighteen hours. Fee: \$35.00.

Adolescents (Children's Hospital). Saturday, November 14. Seven hours. Fee: \$12.50.

Annual Ophthalmology Conference. Wednesday through Saturday, December 2 through 5. Twenty-four hours.*

Course for Physicians in General Practice. Monday through Friday, March 7 through 11. Thirty-five hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOnTrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

SPECIAL ANNOUNCEMENT: Last summer a postgraduate refresher course held in Hawaii was so successful that the USC School of Medicine will offer another refresher course in Hawaii and on board the *S.S. Lurline* from July 29 to August 14. (As a time and money saver, round trip air travel is also possible July 29 to August 10.)

Dermatology and Syphilology Course. Full time, September 15 through August 15. Fee: \$1000.00.

Practical Diagnosis and Management of Cardiovascular Diseases. September 18 through 20. Twenty-one hours. Fee: \$65.00.

Intensive Review of Internal Medicine. Monday through Friday, September 21 through October 2. 9 to 12:30 a.m. Forty hours. Fee: \$65.00.

Bedside Clinics. Thursdays, October 8 through January 14. 7:30 to 9:30 p.m. Twenty-four hours. Fee: \$65.00.

Psychiatric Problems in General Practice. October 8 through December 17. Twenty-two hours. Fee: \$50.00.

Laboratory Methods. Friday, October 9. Seven hours. Fee: \$25.00.

* Fees to be announced.

† Hours to be announced.

§ Fees and hours to be announced.

The Doctor and the Family. Friday, October 16. Seven hours. Fee: \$25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: \$50.00.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: \$65.00.†

Dermatology Clinic, One-Day Symposium. Thursday, March 24.‡

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16.‡

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CAPital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Each Six Months. Anesthesiology (6 months, full-time). Vacancy occurs each six months. Limited to 2 students. Tuition: \$350.00.

1960 Alumni Postgraduate Convention. Refresher Courses, February 28 and 29 at White Memorial Hospital, 1720 Brooklyn Avenue; Scientific Assembly, March 1, 2 and 3 at Ambassador Hotel. **Contact:** Walter Crawford, Executive Secretary, 316 N. Bailey Street, Los Angeles 33, ANGelus 2-2173.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANGelus 9-7241, Ext. 214.

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AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUBbard 3-3451.

Medical Dates Bulletin

AUGUST MEETINGS

NEVADA STATE MEDICAL ASSOCIATION, Annual Session, jointly with Reno Surgical Society, August 19 through 22, Mapes Hotel, Reno. **Contact:** Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

AMERICAN DIETETIC ASSOCIATION, Statler Hilton, Los Angeles, August 25 through 28. **Contact:** Miss Ruth M. Yakel, executive secretary, 620 N. Michigan Ave., Chicago 11.

SEPTEMBER MEETINGS

SAINT JOHN'S HOSPITAL Postgraduate Assembly, September 10 through 12, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 1328 22nd Street, Santa Monica.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Meeting, September 13 through 16, Olympic Hotel, Seattle, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Avenue, Seattle, Washington.

AMERICAN COLLEGE OF GASTROENTEROLOGY. September 19 through 26, Biltmore Hotel, Los Angeles. *Contact:* Mr. Daniel Weiss, executive director, 33 W. 60th St., New York 23, New York.

SANTA BARBARA COUNTY HEART ASSOCIATION Symposium on Cardiovascular Disease. Saturday, September 19. 9:00 a.m. to 5:00 p.m. Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

SAN FRANCISCO ACADEMY OF GENERAL PRACTICE Fort Miley Surgical Clinics and Symposia. Tuesday evenings, September 22 through November 3, 8:00 p.m., Fort Miley Veterans Administration Hospital, San Francisco. *Contact:* Robert W. Wolf, M.D., 760 Market Street, San Francisco.

OREGON STATE MEDICAL SOCIETY Annual Meeting, September 23 through 25, Medford, Oregon. *Contact:* Mr. Roscoe K. Miller, executive secretary, 1115 S.W. Taylor St., Portland 5, Oregon.

SAN FRANCISCO HEART ASSOCIATION 29th Annual Postgraduate Symposium on Heart Disease. September 30, October 1 and 2, 9 a.m. to 5 p.m. daily, St. Francis Hotel, San Francisco. *Contact:* Lawrence I. Kramer, Jr., executive director, 259 Geary Street, San Francisco 2. YUkon 2-5753.

OCTOBER MEETINGS

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, Inc. 18th Annual Meeting, held in conjunction with Third Western Industrial Health Conference, all day October 2 and 3, Statler Hotel, Los Angeles. *Contact:* A. C. Remington, M.D., medical director, AiResearch Mfg. Co., 9851 Sepulveda Blvd., Los Angeles 45.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 2 through 4, Miramar Hotel, Santa Barbara. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Clyde C. Greene, Jr., M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

SAN DIEGO COUNTY HEART ASSOCIATION Ninth Annual Symposium on Heart Disease. October 5 and 6, El Cortez Hotel, San Diego. *Contact:* O. M. Avison, executive director, 3545 4th Avenue, San Diego.

LOS ANGELES COUNTY HEART ASSOCIATION 29th Annual Professional Symposium. October 7 and 8, 9:00 a.m. to 5:00 p.m., Beverly-Hilton Hotel, Beverly Hills. *Contact:* Chauncey A. Alexander, executive director, 660 South Western Avenue, Los Angeles 5.

CALIFORNIA LEAGUE FOR NURSING Annual Meeting, October 8 through October 10, U. S. Grant Hotel, San Diego. *Contact:* Ruth I. Jorgensen, general director, Room 202, 465 Post St., San Francisco 2.

CALIFORNIA ACADEMY OF GENERAL PRACTICE 11th Annual Scientific Assembly, October 11 through 14, 9:00 a.m. to 5:00 p.m., Hotel Statler, Los Angeles. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, St. Jude Hospital, Fullerton, October 29 and 30. *Contact:* B. L. Tesman, M.D., chairman, 1431 Fullerton Rd., Fullerton.

NOVEMBER MEETINGS

SAN DIEGO COUNTY HOSPITAL 13th Annual Postgraduate Assembly. November 4 and 5, 8:00 a.m., San Diego County Hospital. *Contact:* W. T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Ave., San Diego 3.

PACIFIC COAST FERTILITY SOCIETY 8th Annual Meeting. November 12 through 15, Las Vegas, Nevada. *Contact:* Anah Wineberg, M.D., secretary, 3120 Webster Street, Oakland.

CALIFORNIA SANATORIUM ASSOCIATION Annual Meeting. November 14, 9:00 a.m., Santa Clara County Hospital, San Jose. *Contact:* Morton R. Manson, M.D., director, Thoracic Service, Santa Clara County Hospital, San Jose.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach. December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

1960 MEETINGS

RESEARCH STUDY CLUB of Los Angeles Midwinter Clinical Conference, third week of January, Ambassador Hotel, Los Angeles. *Contact:* Norman Jesberg, M.D., secretary, 500 S. Lucas Avenue, Los Angeles 17.

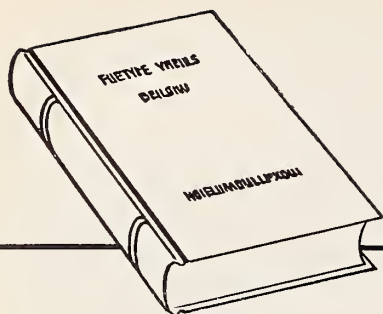
CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.



THE PHYSICIAN'S *Bookshelf*

HANDBOOK OF CARDIOLOGY FOR NURSES—Third Edition—Walter Modell, M.D., F.A.C.P.; Associate Professor, Cornell University Medical College; Attending Physician, New York Veterans Administration Hospital; Associate Attending Physician, Bellevue Hospital; and Doris R. Schwartz, B.S., R.N.; Assistant Professor, Cornell University-New York Hospital School of Nursing; Public Health Nursing Coordinator, Comprehensive Care and Teaching Program, The New York Hospital-Cornell Medical Center. Springer Publishing Company, Inc., 44 East 23rd St., New York 10, N. Y., 1958. 328 pages, \$4.50.

The "Handbook of Cardiology for Nurses" is a well written clear handbook for the registered nurse who is given the responsibility for care of a cardiac patient, or for the nurse who wishes to familiarize herself with recent developments of cardiology. The intelligent layman would also profit by reading the book although it assumes a certain basic knowledge of medicine and medical terms which may be beyond the scope of the average person. The specialized cardiac vocabulary is very clearly explained and the various cardiac diseases lucidly described.

As might be expected in a book collaborated on by a physician and a nurse, the book covers the various common cardiac diseases both diagnostically and therapeutically. It has a long excellent section of six chapters on the nurse's function in the care of the patient and an appendix of low sodium diets and menus. The authors particularly note that the initiative and responsibility belong with the attending physician and have tried to define the limits within which the nurse must move. They stress the importance of the nurse as an on the spot observer and point out that the nurse's presence and intelligent action may often mean the difference between life and death for the patient. The role of the nurse as a buffer between the patient and his often difficult family, and between the patient and his physician are also discussed.

The purely medical aspects of the discussion of cardiac diseases are extremely clear if at times not quite up to date. Advances in the field, however, have occurred so rapidly and the lag between writing the manuscript and publication may explain some of the deficiencies. For example in the discussion of treatment in congenital heart disease it is stated that the surgical operations now in use cannot repair the defect entirely. This is obviously incorrect with the new "open heart" surgical procedures. In the discussion of steroids no drug is mentioned other than cortisone and ACTH, the newer steroids are not discussed. The discussion of vasoconstrictors and the treatment of hypotension is very inadequate. The discussion of Heparin does not include the newer concentrated preparations or the subcutaneous use of the drug. In the discussion of quinidine the preparation of quinidine gluconate which is probably used most extensively is not mentioned, and the general discussion of its use in the treatment of atrial fibrillation is not as extensive as it might be.

In the discussion of the treatment of hypertension, the newer drugs Ansolysen and Mecamylamine are barely men-

tioned despite the fact that these are the drugs that are most potent and most commonly used of the ganglionic blockers. Furthermore, the statement that Hydralazine is the best of the new drugs would be challenged by many. No mention is made of depression as a toxic manifestation of Rauwolfia, nor an indication of the presently considered safe dose. This is a most important point since the nurse may be the one who first notices the behavioral change. Chlorothiazide is discussed but no mention is made of the fact that potassium loss may occur and that this may result in weakness and in the patient receiving digitalis, even ventricular arrhythmias. This is quite important for the nurse to know. There is a considerable discussion of the ion-exchange resins despite the fact that nowadays these are rarely used. The maintenance dose of digoxin is stated to range around 0.5 to 0.75 milligrams daily. This is too high. The statement is made that there is no established antidote for digitalis poisoning; this fails to take into account the work on the use of potassium which is an effective antidote for ventricular arrhythmias.

Despite the various illustrations noted, all of which indicate that the new edition has not included the most recent developments in the field of cardiology, the book can be highly recommended as a very lucid account of the subject and one which gives the reader a very clear idea of diseases of the heart. The book can be strongly recommended and it is hoped that in the fourth edition the comments noted above can be taken into account.

MAURICE SOKOLOW, M.D.

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FIRST AFRO-ASIAN CONGRESS OF OPHTHALMOLOGY—March 1 to 5, 1958, Cairo, United Arab Republic—Acta, Incorporating Bull. Ophth. Soc. Egypt, Vol. 51, 1958. 734 pages.

The Afro-Asian Congress of Ophthalmology is a new ophthalmological organization with membership from Ceylon, China, India, Indonesia, Iraq, Japan, Jordan, Lebanon, The Philippines, Saudi Arabia, Sudan, South Africa, U.S.S.R., Tunis, Turkey, Thailand and the United Arab Republic.

The transactions report the proceedings of this first Afro-Asian Congress of Ophthalmology. By and large, the papers do not come up to Western World standards, and, in most instances, have nothing new to offer. The meeting was held in Cairo.

The aims of this Congress, which is to meet every four years, are to study eye diseases in Africa and Asia, "to cooperate in finding the best ways of combating and eliminating these diseases," to encourage research and obtain grants for research and education.

With further organizational experience, it is probable the standards of the meeting will be raised. The book is primarily in English with here and there Arabic and French.

FREDERICK C. CORDES, M.D.

RADIOGRAPHIC ATLAS OF SKELETAL DEVELOPMENT OF THE HAND AND WRIST—Second Edition—William Walter Greulich, Professor of Anatomy, Stanford University School of Medicine; and S. Idell Pyle, Research Associate, Departments of Anatomy, Western Reserve University and Stanford University Schools of Medicine. Stanford University Press, Stanford, California, 1959. 256 pages, \$15.00.

"In our opinion, the x-ray study of the hand and wrist is the most useful single procedure that is at present available for determining the developmental status of children." So the authors stated in the first edition of this book, and so, with even more authority, they maintain in the second. In the nine-year interval, the book has been extensively used and critically tested. The revisions take cognizance of this intervening experience.

Between the two editions, nothing has changed in the genetically determined character and sequence of developmental progress in the bones of the hands and wrist. Indeed, the authors are now able to indicate, with the help of the radiograph of a hand dated circa 1500 B.C., that there has been no significant change in developmental pattern in the last 3000 years! Nor are there variations between racial patterns. The differences between the two editions depend, therefore, on improvements in, and additions to, the presentation of the material, rather than on changes in the basic data. Although even here there is one surprise! Three familiar old bones have acquired new names: the navicular, greater multangular and lesser multangular have become, respectively, the scaphoid, trapezium and trapezoid.

In their preface, the authors call attention to some of the new features: Improved quality of the reproductions; extra standards where the time intervals were too long; revision of the illustrations and descriptions in the section on maturity indicators; augmentation of the text; the appending of the Bayley and Pinneau tables for predicting adult height.

Other additions involve discussions under the following headings: The genetically determined character and sequence of developmental process; the concept of skeletal age; the close correspondence in skeletal status of the right and left hand; the accuracy of skeletal assessments; the skeletal age of individual bones and epiphyses. In the appendix there are, besides the prediction tables, the radiographs of six skeletal areas of a girl at the time of her menarche, and a device for increasing the safety of hand-radiography.

The overall effect of the supplementary material is to validate and broaden the concept of skeletal age, to strengthen the arguments in favor of using the radiograph of the left hand and wrist instead of depending on radiographs of several areas, or even of both hands, and to answer with appropriate tables, graphs and explanations, some of the questions which have been raised by other workers concerning the precision of skeletal age assessment.

Everyone has become more aware since 1950, of the grave dangers of excess radiation from whatever source, including medical radiography. By establishing the adequacy of one x-ray of the hand and wrist for the clinical purposes of reading skeletal age, by providing superior photographic standards together with lucid instructions for their use, and by offering a blueprint for a safety device, the authors have forged a clinical tool of great potential value.

The present reviewer, who welcomed the first edition as "an important step toward integrating concepts of growth and development into the practice of clinical medicine," is glad to hail the second edition as a further step in the same direction. This is a step which physicians and radiologists dealing with children and adolescents are increasingly ready to recognize.

LEONA M. BAYER, M.D.

AN ATLAS OF SURGERY—F. Wilson Harlow, M.B., B.S. (Durham), F.R.C.S. (Eng.); Fellow of the International College of Surgeons; Associate Member British Association of Urological Surgeons (Home and Overseas); Consultant Surgeon South West Metropolitan Regional Hospital Board and to H. M. Central Prison, Parkhurst and H. M. Prison, Camp Hill; with a foreword by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., D.Sc., F.R.C.S., Fellow of King's College, London; Past President Royal College of Surgeons of England; Consulting Surgeon to King's College Hospital Belgrave Hospital for Children, and the Royal Navy. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1959. 363 pages, \$8.50.

This is a very simple pictorial review of many surgical problems. It is written on a very simple level. The book is not suitable for either medical students, general practitioners or specialists. It is designed primarily for nurses and will give nurses a bird's eye view of the general concepts behind operations and diagnostic surgical procedures throughout the body.

It is a pictorial aid to memory of common and important surgical facts for nurses, orderlies and paramedical personnel, not for students or physicians.

The main virtue of the book is that it is beautifully illustrated and there is very little that needs to be read in its contained pages.

It is not recommended for physicians, but is recommended for paramedical personnel and nurses.

VICTOR RICHARDS, M.D.

* * *

OBSTETRICS AND GYNECOLOGY—J. Robert Willson, M.D., Professor and Head of the Department of Obstetrics and Gynecology; Clayton T. Beecham, M.D., Clinical Professor of Obstetrics and Gynecology; Isador Forman, M.D., Clinical Professor of Obstetrics and Gynecology; and Elsie Reid Carrington, M.D., Assistant Professor of Obstetrics and Gynecology; all from Temple University School of Medicine and Temple University Medical Center, Philadelphia. The C. V. Mosby Company, St. Louis, 1958. 605 pages, with 267 illustrations, \$10.75.

Dr. Willson and his associates have attempted the logical but difficult task of combining obstetrics and gynecology in one volume. In large measure he has succeeded in arranging the material in a logical sequence. His theme has been to tell an integrated story, starting at birth and continuing through puberty, maturity, the menopause and senescence. Occasionally the sequence is awkward—e.g., Chapter 39 describes pelvic infection, including puerperal infection, gonorrhea and tuberculosis, and this is followed by Chapter 40 on the subject of the puerperium. The chapter on malignant lesions of the cervix is followed by a consideration of benign cervical lesions.

The material has been well chosen to eliminate wordy descriptions of rare conditions, theories and little used procedures. The attempt is made to emphasize diagnosis and treatment. Techniques of operations are not described. The descriptions are concise and to the point and the point of view expressed is generally sound and conservative. As a matter of fact at times it seems that the consideration given a particular subject is really too scanty, even for medical students. For example, the description of carcinoma of the vulva is confined to one page.

It is my belief that Dr. Willson's book would be suitable for medical students but that it would have to be supplemented in many areas by more detailed elaboration.

Included in the 51 chapters and 580 pages are chapters on life periods of the human female; the periodic health examination, infertility, pediatric gynecology and clinical uses of the sex hormones in gynecology as well as chapters on the usual divisions of the subject material.

Dr. Willson's book represents a real achievement in bringing the two subjects together in a logical manner.

DANIEL G. MORTON, M.D.

GENERAL PATHOLOGY—Second Edition—Sir Howard Florey, Professor of Pathology. W. B. Saunders Co., Philadelphia and London, 1958. 932 pages, \$16.00.

This book consists of material presented in a series of lectures in a course in general pathology and bacteriology to students who have read the Honour School of Physiology at Oxford, in which a year of intensive study of Physiology and Biochemistry has been successfully completed. It is written by fifteen authors who deal with subjects in which they are especially interested. The reader will find this volume entirely different from most textbooks in pathology used in this country today. There is very little gross or microscopic description of morphologic changes. There is instead a discussion of the fundamental changes that take place in the body in response to injury, and a presentation of the latest views about the nature and causes of such changes. Much of this represents an excellent review of appropriate experimental pathology and modern biochemistry, including recent studies on the chemistry of the nucleus and cytoplasm and the enzymes thereof.

Several well written chapters review carefully recent knowledge of changes in acute and chronic inflammation as well as edema and shock. Several chapters deal with the pathogenicity and virulence of micro-organisms, including one chapter on viruses. Eight chapters discuss antigens and antibodies and the general subjects of immunity and hypersensitivity. The last two chapters deal with the influence of drugs on inflammatory processes and the mode of action of antibacterial substances *in vitro*.

The average practitioner of medicine will have great difficulty with parts of this book, especially the portions involving recent biochemistry, but a student in his second or third year of medical school should profit greatly by this almost complete departure from morphologic pathology, which must be learned from other sources.

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TEXTBOOK OF PHYSIOLOGY AND BIOCHEMISTRY—Fourth Edition—George H. Bell, B.Sc., M.D. (Glasg.), F.R.F.P.S.G., F.R.S.E., Professor of Physiology in the University of St. Andrews at Queen's College, Dundee; J. Norman Davidson, M.D., D.Sc. (Edin.), F.R.F.P.S.G., F.R.I.C., F.R.S.E., Gardiner Professor of Biochemistry in the University of Glasgow; formerly Professor of Biochemistry in the University of London at St. Thomas's Hospital Medical School; and Harold Scarborough, M.B., Ph.D. (Edin.), F.R.C.P.E., M.R.C.P., Professor of Medicine in the Welsh National School of Medicine of the University of Wales and Director of the Medical Unit in the Royal Infirmary, Cardiff; formerly Reader in Medicine in the University of Birmingham. With a foreword by Robert C. Garry, M.B., D.Sc. (Glasg.), F.R.F.P.S.G., F.R.S.E., Regius Professor of Physiology in the University of Glasgow. The Williams and Wilkins Company, Baltimore, 1959. 1065 pages, \$12.50.

The reviewer has had the privilege of these pages for describing the first two editions of this textbook, the popularity of which is indicated by the fact that it is now in its fourth edition and that it has been translated into an Italian edition. Whereas the third edition had been 80 pages larger than the second, the fourth edition is 17 pages shorter than the third. Chapter headings and sequence are essentially the same. In addition to adding selected material, the book is much improved by changing the style of designating chemical formulas, by addition of many black and white and color illustrations and by simplification of tables of data. Much of the biochemical information, treated statically in the earlier editions is now presented in the dynamic terms of physiological chemistry. To incorporate the essentials of both biochemistry and physiology in a book of 1023 pages, exclusive of index, is a real achievement. In his foreword to the first edition, which has been reprinted without change in succeeding editions, Professor R. C. Garry writes: "For those who mean to specialize in physiology, in biochemistry,

in pharmacy or in pharmacology this book can be no more than an introduction. But it is an introduction which is essential if narrowness in thought and frustration in achievement are to be avoided." The same can be said of any textbook appropriate for professional students in their earlier years of study. Detailed information must come from reading reviews, monographs and the original scientific reports upon which all books on science are based.

This fourth edition is composed of 55 chapters and a final three pages of units of measure and age-weight-height relations of men and women. The opening chapter is a general introduction which could well be omitted, for it lacks sufficient information to orient the beginning reader, tells nothing the experienced reader does not know and serves no purpose not served by the preface, namely an apology for the book. The subsequent chapters are well arranged, both as to order and content. Basic chemical structure of protoplasm comprises the material of five of the first six chapters. The reviewer believes that Chapter 9 on "Water and Minerals" should precede Chapter 7 on "Enzymes" and that Chapter 10 on "The Vitamins" should stand between Chapter 7 and Chapter 8, "Biological Oxidations and Reductions." Beginning with Chapter 13 on "Temperature Regulation" the authors relate the physical and mechanical aspects of physiology to chemical changes and chemical dynamics in a manner few other writers have achieved. Where anatomy and histology clarify the presentation, such information is included, with excellent illustrations. Although the physical and chemical, the static and dynamic, cannot be separated in practice and should ideally be taught simultaneously, one wonders where may be found those supermen who can know both aspects so well as to teach them with the conviction of familiarity. The limitations of human experience and ability and the practical necessities of teaching and research laboratories still justify the separation of biochemistry and physiology, with considerable excusable overlapping, in the teaching curriculum.

CLINTON H. THIENES, M.D., Ph.D.

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GROVES' SYNOPSIS OF SURGERY—Fifteenth Edition—Edited by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., M.Ch., D.Sc., F.R.C.S., F.A.C.S., F.R.A.C.S., Past President of the Royal College of Surgeons of England; Fellow of King's College, London. The Williams and Wilkins Company, Baltimore, 1958. 650 pages, illustrated, \$8.50.

This is the fifteenth edition of a standard synopsis of surgery prepared by Sir Cecil Wakeley. The number of editions alone attest to the fact that this must be an excellent book, summarizing principles of general surgery.

The book is written in small print, is simply illustrated with line drawings and is in outline form. Nevertheless, there is sufficient discussion about each topic that one can get a very good general idea of the surgical problem under discussion. It is the type of book which a student would be interested in studying. A general practitioner could use it for reviewing major surgical problems which might require more extensive treatment, and it would serve as an excellent review book for board examinations and refresher courses in general surgery.

Nothing on technique is given but an understanding of the nature of the surgical treatment involved is clearly expressed. Urological, plastic, general, vascular, orthopedic surgery are equally covered in this outline fashion.

This book is an effort to encompass the bulk of surgical knowledge for students. It compresses and summarizes the essentials of an ever-advancing science in a concise and methodical manner.

It is recommended particularly for students and general practitioners.

VICTOR RICHARDS, M.D.

TREATMENT OF CANCER AND ALLIED DISEASES—Second Edition, Volume III—Tumors of the Head and Neck—Edited by George T. Pack, M.D., F.A.C.S., and Irving M. Ariel, M.D., F.A.C.S. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1959. 781 pages, 1028 illustrations, \$30.00.

The place of surgery, radiotherapy and combined methods in the treatment of cancer of the head and neck is extensively covered in this beautifully prepared and illustrated textbook.

Following a three-part introduction dealing with general principles, there are sections devoted to: Tumors of the mouth, pharynx, nose and sinuses, tumors of the ear, tumors of the eye, tumors of the larynx, tumors of the neck, and tumors of the thyroid and parathyroid glands.

In all, these involve 49 chapters, contributed by some 72 authors. Many of the contributors are surgeons and radiologists of international renown.

In the section dealing with precancerous lesions of the oral cavity, the treatment of leukoplakia is left somewhat suspended in mid-air. It would be preferable if a team of the senior authors, or the two senior editors, took this particular thorny problem by the horns and laid down a clear statement as to what they actually do in their everyday practice.

Lip cancer is illustrated as being suitable either for surgical excision or irradiation, depending upon the stage and to a certain extent the type of patient. The radiotherapeutic program outlined is a sound one, in the opinion of this reviewer.

Radiotherapy of carcinoma of the buccal mucosa is well described and illustrated. The carefully documented cures of the Toronto General Hospital are given in considerable detail. Radical surgery of buccal mucosa cancer is also thoroughly discussed.

Under the heading "Treatment of Tongue Cancer" one of the senior authors writes "Tongue cancer can be treated by either surgical or radiologic methods. The indications for the modality used varies with the inclination and training of the physician and is further influenced by the type of material referred to him." We believe this is an impartial statement of fact. The relatively modest cure rate of tongue cancer by either surgery or radiotherapy, or by combined methods, is tabulated in great detail in a series of pages.

The section on the treatment of tonsillar carcinomas is contributed by the renowned Swedish worker, Elis Berven. He reports a five-year cure rate of approximately 16 per cent and a 10-year cure rate of 14.5 per cent. Charles Martin of Dallas also deals with this question in an excellent chapter covering radiation therapy of cancer of the pharynx.

Fletcher and associates of Houston deal with the treatment of tumors in the same area by orthovoltage as well as higher energy irradiation. This group emphasizes that increased survival rates or even increased survival times have not yet been demonstrated from "so-called supervoltage" therapy. The fact of the matter is of course that with orthovoltage (200 to 300 Kv.) one can deliver more irradiation to the midline of the oropharynx than the normal structures will tolerate, without seriously damaging the overlying skin. Indeed, with orthovoltage one can deliver more than the normal spinal cord will tolerate, and with megavoltage even greater doses to normal deep structures are inevitable. The chapter on surgical treatment of cancers of the cervical esophagus and adjacent hypopharynx is contributed by Harold Wookey. Tumors of the mandible are discussed by John Conley.

In the remainder of the text there is the same liberal dispensal of potential therapeutic method, and in some sections quite elaborate descriptions of plastic procedures to repair the extensive deformities resulting from radical surgery.

One wonders if interstitial radium therapy is still called for in squamous cell cancer of the external ear. The illustration used in this connection is one taken from an article published in 1948 and perhaps this represents a method less than modern.

A notable section is that dealing with laryngeal tumors, which includes a beautiful color plate from Holinger showing the actual appearance of many of these lesions in the living patient. Radiotherapy of cancer of the larynx is ably discussed by Lenz and associates. The indications for neck dissection and recommended techniques are extensively outlined by Sugarbaker and Wiley. Nostalgia will be aroused in West Coast readers studying the section on radical neck technique by the late E. J. Bartlett, beautifully illustrated by Ralph Sweet.

The final sections deal with lesions of the thyroid gland, and the multiple approach to this problem. There is then an extensive series of bibliographies keyed to each of the chapters and an excellent index. The work is a tribute to the industry of Pack and his able associates.

L. H. GARLAND, M.B.

* * *

PULMONARY CIRCULATION—An International Symposium, 1958, Sponsored by the Chicago Heart Association—Edited by Wright R. Adams, M.D., and Ilza Veith, Ph.D. Grune & Stratton, New York, 1959. 316 pages, \$4.50.

The volume on "Pulmonary Circulation" is a superb addition to our knowledge of the subject. It is a summary of an international conference held in Chicago in March 1958. No attempt was made to cover all phases of the subject or all diseases involved in the pulmonary circulation but emphasis was always placed on new knowledge and its significance and interpretation.

The galaxy of stars who contributed is awe inspiring. The conference was held under the auspices of the Chicago Heart Association, and they and the publishers are congratulated on providing this compact review of the Pulmonary Circulation.

Chairmen of the five sessions were Dr. Julius H. Comroe, Jr., Dr. Jesse E. Edwards, Dr. Lars Werko, Dr. Howard B. Burchell and Dr. Paul Wood. This by itself indicates the level of the presentations and it probably would be unnecessary to list the other outstanding speakers. Key investigators from Canada, England, Sweden and investigators from all parts of the United States were represented in the symposium.

The format of the volume includes a historical analysis of the development of the concepts of the Pulmonary Circulation by Cournand. Six papers on the physiology of Pulmonary Circulation; six papers on the pathology of the Pulmonary Circulation; five on the Pulmonary Circulation and primary lung disease; seven on the Pulmonary Circulation and Congenital Heart Disease, and six on the Pulmonary Circulation and Acquired Heart Disease. Following each of the discussions following each of the presentations there was an open discussion and with many of the papers a comprehensive up-to-date bibliography.

The articles are very well prepared, correlate modern physiological and clinical observations and bring up to date our knowledge of the important subject under discussion. The developments of Congenital Heart Disease have made it necessary to understand the Pulmonary Circulation and now these facts can be utilized further in problems in systemic circulation.

The technical features of the papers require personal inspection and the reviewer can only state this volume is one of the classics in the field and is the required reading for anyone who wishes to understand this important subject.

MAURICE SOKOLOW, M.D.

THERAPEUTIC RADIOLOGY—Rationale, Technique, Results—William T. Moss, M.D., Assistant Professor of Radiology, Northwestern University School of Medicine, Department of Radiology, Chicago, Illinois; Director, Department of Therapeutic Radiology, Chicago Wesley Memorial Hospital; Chief, Department of Therapeutic Radiology, Veterans Administration Research Hospital, Chicago, Illinois. With foreword by Lauren V. Ackerman, M.D., The C. V. Mosby Company, St. Louis, 1959. 403 pages, \$12.50.

This volume is described by the author as an introduction to selected clinical problems in therapeutic radiology. It is in fact considerably more than that. It is a practical book on radiation therapy which sets forth the effects of radiation on normal tissues, as well as on inflammatory, metabolic and neoplastic disorders of various types.

In the introduction, the author emphasizes that while individual tolerance and needs vary widely, radical radiation can be given effectively and safely by an experienced radiologist. "In a way, it is unfortunate that under a good teacher, few complications of overtreatment will be seen by the trainee. Not infrequently, the newly certified resident, like his surgical counterpart, is convinced that better results will follow more radical treatment. In these days of super-voltage, it is easy and tempting for the new radiologist to increase field sizes and doses. He launches his career by producing an increased number of radiation necroses without increasing the control rate. Slowly and painfully he appreciates the skill and advice of his teacher."

The author emphasizes that roentgen for roentgen, radiations with shorter wave lengths are actually biologically less effective than those of longer wave lengths. He notes the skin sparing effect of megavoltage, and stresses the hazards from high dose effects in deeper organs.

The treatment and results of radiation therapy in disorders of the various body systems are then considered in a series of 19 chapters. On page 45, the excellent results of radical radiotherapy of advanced squamous cell cancer of the skin are well illustrated. In the section on the head and neck, he emphasizes that orthovoltage (200 to 250 kv.) radiations are just as curative as radiations in the megavoltage or million volt range. They are less associated with the hazards of late severe fibrosis of the cheek, etc.

The optimum dose-time relationship for laryngeal cancer is discussed at some length. The author appears to favor the Curie Foundation current program of about 500 rads in six weeks. Your reviewer regards this as at the lower range of desirable effective dosage.

There is a good discussion of the dilemma of the modern radiologist and surgeon in the treatment of breast cancer. In general, the author's program is one advocating post-operative radiotherapy in the presence of microscopically involved axillary nodes, and radiotherapy alone in the surgically incurable cases. He notes that while bolus material makes the calculation of dosage in the treatment of breast and chest wall lesions somewhat simpler, there is little other real advantage. He chooses to treat cancer of the breast without bolus.

The section on cancer of the cervix outlines modern effective radiotherapeutic techniques. He quotes Morton to the effect that irradiation of the pelvic lymph node areas "has at least as much to offer as radical hysterectomy with lymph node dissection." In support of this view, he also quotes Meigs, "Node dissection, as it is done in the radical operation, is at best a crude dissection of pelvic nodes. Certainly there are so many chains and so many nodes in each chain that it would be impossible to remove them all. Often the nodes are so small that they cannot be seen, and often channels and nodes in an easily dissectible area are left behind." He does not list Kottmeier's rather convincing data illustrating effectiveness of radiotherapy in selected cases of squamous cell cancer in pelvic nodes.

In the chapter dealing with the response of normal bone to irradiation, the author expresses undue optimism in connection with the sparing characteristics of megavoltage. Recent publications by Friedman, Guttman and others have shown that in actual clinical practice, bone necrosis is just as apt to occur after radical radiotherapy with megavoltage devices (linear accelerators, telecobalt units, etc.), as with orthovoltage x-ray units. Since much of the effect of irradiation in bony structures is on the soft tissues of the marrow and the blood vessels, this is not at all surprising.

The work is well illustrated and indexed. Each chapter is appended with a list of references to the current literature.

L. HENRY GARLAND, M.B.

* * *

POLIOMYELITIS—Papers and Discussions Presented at the Fourth International Poliomyelitis Conference—Compiled and Edited for the International Poliomyelitis Congress. J. B. Lippincott Company, Philadelphia, 1958. 684 pages, \$7.50.

This volume does an excellent job of bringing together all important aspects of our present knowledge of poliomyelitis. It also contains much information on experimental methods applicable not only to this, but to other virus diseases. Much of the material is of little practical importance to the practitioner of medicine in the treatment of patients with the disease; thus if a brief practical account of this phase of the problem is sought this is not the answer. This does not mean that thorough attention has not been given to the practical aspects of treatment, but rather that it must be sought for in widely separated sections of the book. The work is very well edited, and the printing and illustration excellent.

HENRY NEWMAN, M.D.

* * *

PHYSICAL DIAGNOSIS—14th Edition—F. Denette Adams, M.D., Physician, Board of Consultation, Massachusetts General Hospital; Consultant to the Surgeon General, U. S. Army; Consultant to Boston and Bedford, Mass., Veterans Administration Hospitals. The Williams & Wilkins Company, Baltimore, 1958. 926 pages, \$12.00.

The fourteenth edition of this book reaffirms its place as the classic work in the field of Physical Diagnosis. Doctor Adams recognizes the obligation of his literary heritage in the spirit and detail of Cabot's *Principles and Methods of Physical Diagnosis* even though few recognizable features of the early text remain.

In the sixteen years which have elapsed between the thirteenth and fourteenth editions the rapid and diverse progress of diagnostic medicine has necessitated extensive re-writing and complete revision of a number of sections.

This book is aimed primarily at the medical student. He will find its scope broader than the usual Physical Diagnosis. The style is simple and clear. The material is well organized with readily found headings. The index is extensive and complete. In each subject, presentation goes from the general to the particular. Details which involve the rare or exotic are not confused with basic ideas.

Differential diagnosis is again emphasized. The listing of specific disease entities and the processes causing particular signs or symptoms are of advantage. The numerous illustrations are generally well done and correlated with the text. There is also good correlation of x-ray and EKG findings in pulmonary and cardiac conditions to help in the understanding of the role of physical diagnosis, and similarly interconnected laboratory findings in other disease processes.

In summary, this continues to be the best and most complete book on Physical Diagnosis available to students.

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Management of Early Prostatic Carcinoma

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THE SUCCESSFUL CONTROL of malignant neoplasms depends to a large extent upon early diagnosis and treatment. This is true of prostatic carcinoma whether radical extirpation or more conservative treatment is indicated. The patient who has an early cancer of the prostate has no symptoms referable to the malignant change. Therefore, if he does see his physician, it is for a general examination, or for the relief of symptoms which are not due to prostatic carcinoma. An important part of the examination of every adult male is palpation of the prostate through the anterior rectal wall; only by so doing can more cases of prostatic cancer be discovered early in the course of the disease. When a hard nodule is palpated or when all or part of the gland is hard, malignant disease should be considered present until proved not to be.

Incidence of Prostatic Carcinoma

Cancer of the prostate is common in men over 40 years old. Franks³ did serial sections of the prostate at coroner's autopsies and found carcinoma in 29 per cent of men in the fifth decade. The incidence increases with age. Hirst and Bergman⁶ found carcinoma by section of the prostate in 80 per cent of men between 90 and 99 years old who came to autopsy.

A diagnosis of prostatic carcinoma is made by microscopic examination of the tissue in about 15

• It is important to make a diagnosis of prostatic carcinoma as early as possible, because early treatment gives the best results whether radical prostatectomy is done or endocrine therapy used. Open perineal biopsy is the most accurate method of making a diagnosis. Perineal needle biopsy or the newer approach of transrectal needle biopsy is probably about 75 per cent accurate in making a diagnosis.

Ten-year survival with conservative therapy, as determined in a review of a series of cases, was 50 per cent—about the same as that following radical prostatectomy; but the patients with prostatectomy are clinically free of malignant disease whereas the former are not. Radical prostatectomy is indicated in a few selected cases.

The results from endocrine therapy begun immediately after diagnosis are significantly better than those from delayed treatment. Orchiectomy and estrogens promise a little longer survival than estrogens alone.

per cent of patients operated upon for the relief of prostatism.¹ Hudson⁷ did open perineal biopsy on 300 unselected men and found prostatic carcinoma in 12.9 per cent in the fifth decade. Comparing these data with those obtained by Franks³ in serial sections of the prostate (an incidence of 29 per cent in autopsy of men in the fifth decade), it is evident that about one-half of the cases of prostatic carcinoma are not diagnosed even by open perineal biopsy; more than half of those diagnosed by biopsy were detected by rectal palpation.

It is probable, therefore, that evidence of prostatic carcinoma by rectal palpation is found in only about one-fourth of men who actually have the dis-

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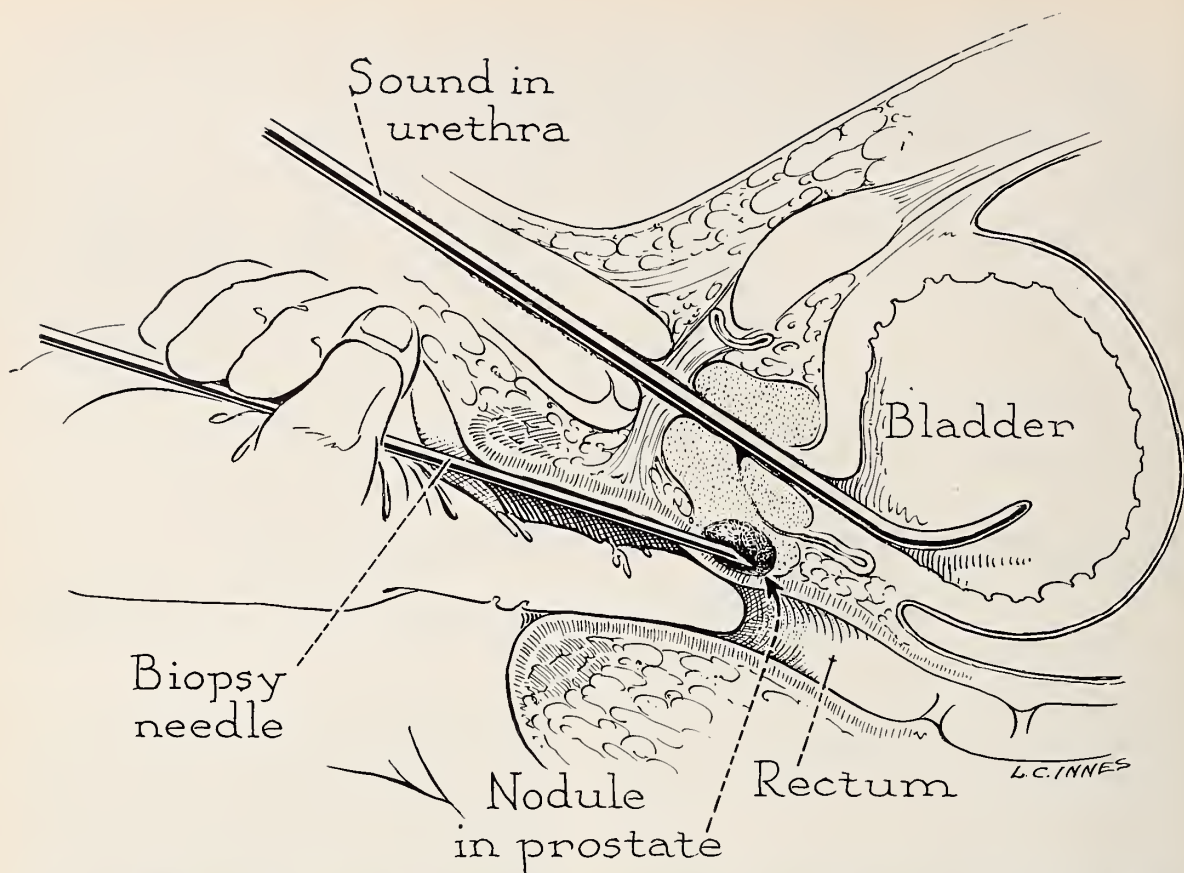


Figure 1.—Transrectal needle biopsy. A sound in the urethra holds the prostate dorsalward where it is more available to the biopsy needle.

ease. It is thus all the more important for men over 50 years old to have a prostatic examination at least once a year, in order to discover carcinoma as soon as there is any change in the consistency of the gland.

Diagnosis of Early Prostatic Carcinoma

Screening test. The screening test for early prostatic carcinoma is palpation of the gland through the anterior rectal wall. Since only about one-half of hard nodules are carcinoma,¹⁰ it is necessary to confirm the diagnosis in order to treat the patient properly.

Methods of biopsy. There is considerable difference of opinion as to the relative value of different methods of biopsy.

Open perineal exposure and removal of the nodule together with other sections from the gland is undoubtedly the most accurate method. It is indicated in patients who have a life expectancy of more than ten years, who are desirous of making every effort to eradicate the lesion, and in whom more simple methods of diagnosis have not been conclusive.

Perineal needle biopsy has been found by some investigators to be approximately 70 per cent accurate,^{5,10} but by others it is considered of little value.⁷ A report which is positive for malignant disease can in most cases be relied upon, but when no carcinoma is seen in the sections, further evaluation may be necessary.

A new approach, the transrectal needle biopsy, offers more promise of accuracy than does perineal needle biopsy in diagnosing the nature of a prostatic nodule (Figure 1). It is simple to perform and can be done as an office procedure. The technique we have used is as follows: The patient is put on the table in the lithotomy position. The rectum is checked by finger palpation to see that it is clear of feces. An ounce of an antiseptic solution such as Vioform (iodochlorhydroxyquin U.S.P., Ciba) 3 per cent Betadine (providone-iodine, Tailby-Nason) or Triophyll (tri-iodophynol, Schaeffer) is instilled into the rectum and allowed to remain ten minutes. A sound is passed through the urethra into the bladder and an assistant holds it in a position to displace the prostate dorsalward and outward toward the anal outlet. The gloved index finger is

TABLE 1.—Survival Rates in Series of Patients with Early Prostatic Carcinoma (Confined to Capsule, as Determined by Rectal Palpation)

	No. of Cases	10-Year Survival Rate	No. of Cases	15-Year Survival Rate
Following radical perineal postatectomy:				
Turner and Belt ¹⁴	35	34%		
Jewett ⁹	79	37%		
Following conservative treatment:				
Barnes and Emery (present study).....	38	50%	27	11%
White male population U.S.A. age 65—Metropolitan Life Insurance Co.....		60%		38%

passed into the rectum with a Silverman biopsy needle held snugly against the finger—the tip of the needle at the tip of the finger. As the finger and needle are introduced into the rectum, the point of the needle is against the finger and the bevel edge away from the finger.

The suspected nodule or hard area in the prostate is palpated with the tip of the finger (its location having been previously determined by palpation without the presence of the needle against the finger). The needle is then rotated a half turn so as to place its tip away from the finger and its beveled edge against the finger. This maneuver prevents sticking the tip of the needle into the finger. The needle is then inserted through the rectal mucosa to the nodule or hard area, but not into it. The obturator is removed and the bivalved biopsy obturator is inserted through the needle and into the prostate. The bivalved obturator is then held stationary as the needle is rotated and advanced about 1.5 cm. The bivalved obturator is then removed from the needle and the small cylindrical piece of tissue taken from between its blades.

Two or three pieces of tissue may be removed by reinserting the needle into different portions of the gland. We have performed 20 transrectal needle biopsies; no complications have thus far occurred except elevation of temperature for two days in two patients. The number of procedures is too small and they were too recently done for us to have any data regarding their accuracy, but it is our opinion that they are almost as accurate as open perineal biopsy.

Open transrectal biopsy is advocated by some investigators,¹² but in our hands there have been a few complications and the procedure requires hospitalization for from one to six days.

Cytological study of prostatic fluid has not proven to be of definite value in making a positive diagnosis of prostatic cancer.^{2,10}

Serum acid phosphatase determination may be an aid in the diagnosis of bony metastasis, but is of no value for diagnosis in the early stages of prostatic cancer.

Treatment

Results of treatment. A perusal of the results of different methods of treatment is pertinent when deciding upon the best method to use. Five-year

survival statistics are not very significant, because few patients who have early prostatic cancer and are started on conservative treatment as soon as the diagnosis is made, will die of the disease within five years (3 per cent in our series). Ten-year survival rates and the condition of the patients who live ten years or more are more enlightening. Among the latest reports of the results of radical perineal prostatectomy are those of Jewett⁸ and of Turner and Belt,¹⁴ who report ten-year survivals of 37 per cent and 34 per cent respectively, when the carcinoma is confined within the capsule as determined by rectal palpation. These results are comparable with those in similar cases in our series which were selected because the neoplasm was apparently confined within the capsule as determined by rectal palpation.

In an attempt to determine the results of conservative treatment of early prostatic cancer, we selected for study from our files all cases which were judged to be early as determined by rectal palpation. The following criteria were used:

1. Carcinoma evidently confined within the gland as determined by rectal palpation.
2. Occult carcinoma—positive pathologic diagnosis without clinical evidence of malignant disease.
3. Positive pathologic diagnosis of carcinoma either at the time of the first examination or later in the course of the disease.

There were 38 cases which met these criteria and in which the patient was observed ten years or longer. Twenty-six of the patients had endocrine therapy from the time of the first examination; 12 were seen the first time before the endocrine era and did not receive this therapy until later in the course of the disease. The ten-year survival of the entire group was 50 per cent. This survival rate compares favorably with the best that has been reported following radical prostatectomy. There is, however, one difference in the two series of cases which should be noted. In our patients who had conservative therapy, there was, at the time of last follow-up, clinical evidence of the presence of carcinoma in approximately three-fourths of the patients, whereas those reported by Jewett and by Turner and Belt were clinically free of cancer at

TABLE 2.—Deaths from Prostatic Carcinoma. Patients Having Delayed Endocrine Therapy Compared with Those Having Immediate Therapy. When First Seen, All Patients Had Early Prostatic Carcinoma

	5-Yr. Follow-up		10-Yr. Follow-up		15-Yr. Follow-up	
	No. Cases	Died of Prostatic Cancer	No. Cases	Died of Prostatic Cancer	No. Cases	Died of Prostatic Cancer
Delayed therapy.....	16	2 (12%)	12	7 (58%)	11	10 (93%)
Immediate therapy.....	41	1 (3%)	20	4 (20%)	7	5 (71%)

the time of last follow-up. The 15-year survival rate in our cases was 11 per cent. There is no report of 15-year survival following radical prostatectomy with which to compare this datum, but it is probable that the 15-year survival rate following radical prostatectomy would be better than that.

According to Metropolitan Life Insurance Company statistics the normal ten-year survival of all white males in the United States at age 65 (the median age of our group) is 60.1 per cent and the 15-year survival is 38.6 per cent. (See Table 1.)

Conservative and radical treatment compared. The data given above indicate that early cancer of the prostate is probably curable by radical prostatectomy. In order to be curable, however, it must be confined within the capsule. There is evidence that endocrine therapy controls the neoplasm contained within the capsule better than it controls cancer which has extended beyond the capsule.⁴ Therefore, radical removal of the prostate is rarely if ever indicated unless the carcinoma is confined within the capsule. The practice of giving estrogens in order to soften and shrink the tissues, thus converting an inoperable prostatic carcinoma into one which can be removed, is mentioned only to be condemned.¹³ It can be controlled just as well if not better by endocrine therapy without operation. The amount of extension of cancer beyond the capsule is usually underestimated during rectal palpation.^{9,10} Therefore it is probable that when the prostatic nodule is only slightly fixed, the malignant process has extended beyond the capsule and cure cannot be attained by radical operation.

The indications for radical prostatectomy to cure prostatic carcinoma are as follows:

1. Life expectancy of ten years or longer.
2. Excellent surgical risk.
3. Neoplasm confined within the capsule.
4. Patient anxious to have radical operation to cure his cancer.

Immediate as against delayed endocrine therapy. When the above criteria for radical prostatectomy are not met, endocrine therapy is indicated. The miraculous manner in which far advanced prostatic carcinoma usually melts away under endocrine therapy would at first blush seem to indicate that life might be extended as long by giving this treatment late in the course of the disease as by giving it

early. In an attempt to shed light on this question, we compared the survival of two groups of patients who had early prostatic carcinoma when first seen. The patients in the first or delayed therapy group were initially seen before the endocrine era and had no endocrine therapy for at least three years; then they were given this treatment and it was continued. The second or immediate therapy group were started on endocrine treatment as soon as a diagnosis of early prostatic cancer was made. Otherwise the groups were similar; the neoplasm was apparently confined within the capsule as determined by rectal palpation. When they were first seen all patients had a positive pathologic diagnosis of carcinoma, and all were observed for five years or longer. The data are given in Table 2. There was a significantly higher rate of mortality from carcinoma in the patients who had delayed therapy; in the ten-year follow-up, it was nearly three times greater than in those who had immediate therapy. From these data it is evident that endocrine therapy should be started immediately when a diagnosis of prostatic cancer is made.

Orchiectomy. Nesbit and Baum's statistics¹¹ show that the survival of patients who have prostatic carcinoma is about two years longer when combined orchiectomy and estrogen therapy is given than when estrogens are used alone. Orchiectomy should, however, never be performed unless a positive pathologic diagnosis of prostatic carcinoma has been made. It is unwise to persuade a patient to submit to orchiectomy when he is definitely against it.

1700 Brooklyn Avenue, Los Angeles 33 (Barnes).

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The Five Commandments of Ancient Chinese Medicine

1. The physician should respond to the call of all patients, high or low, rich or poor. He should treat them equally well, regardless of financial reward. Thus his profession will prosper and his conscience will remain clear.
2. The physician may visit a lady, widow or nun only in the presence of an attendant. Secret diseases of female patients should be examined and treated with a right attitude, and should never be revealed to anyone, not even the physician's wife.
3. The physician should not ask patients to send pearls, amber or other valuables to his home for the preparation of medicines. The patients should be instructed how to mix the prescriptions themselves in order to avoid suspicion. It is also improper to admire things that patients possess.
4. The physician should not leave his office for picnics and drinking. Patients should be examined punctually and personally. Prescriptions should be made according to the formulary.
5. Prostitutes should be treated like patients from good families; free service should be provided to the poor ones. Mocking should not be indulged in; this brings loss of dignity to patient and physician. After examination the physician should leave the house immediately. If the patient improves, medicines may be sent, but the physician should not return for further reward.

ALBERT FIELDS, M.D., Los Angeles

Childhood Accident Prevention

Program and Statistical Survey by a County Medical Society

**B. OTIS COBB, M.D., Martinez, J. HAROLD WILLIAMS, M.D.,
and LESLIE CORSA, JR., M.D., Berkeley**

MEDICAL SOCIETY INITIATIVE in the original investigation of problems pertaining to disease prevention is somewhat rare. Seldom has initiative of this kind developed in such a way that the medical society sought the help of public health departments in a cooperative research project. This is a report of such initiative, such cooperation, and such a project.

In 1955 the Child Welfare Committee of the Alameda-Contra Costa Medical Association decided to activate a program of community service in the field of child health. Since the sequelae of trauma are a leading cause of death among children after the first year of life, the Committee felt that prevention of some of the overwhelming numbers of injuries occurring consistently among the child population ought to be included in its scope. It is well known that a tremendous problem exists, but, as far as could be learned, too little definitive work had been done to give specific direction for productive action.

The Committee believed that research and education related to this problem, done concurrently, could be synergistic in action. During the early planning sessions it became apparent that a program with several interrelated objectives should be developed.

PLAN

First, the interest of each member of the association and the public was focused on the problem and the need to do something about it. This was done by letters to the membership, announcements in the medical society's monthly bulletin and by enlisting the cooperation of the public press. Efforts were made to involve as many people as possible in the project—physicians themselves, by having them mail out information from their offices; office assistants by sending information to them for use in their offices; members of the medical auxiliary through use of their volunteer services in distrib-

• A study of childhood accidents was begun by the Alameda-Contra Costa Medical Association to determine the incidence of various kinds of accidents, the causes and possible means of prevention. Hospitals, the State Department of Public Health and county and city health departments gave willing assistance when their aid was sought.

Data gathered thus far have served to better identify the problems and can be used to set priorities for various phases of future study.

uting material; members of some service clubs in the same way.

Second, we instituted a public education campaign through wide distribution of pertinent knowledge derived from many sources. Distribution was made primarily in the form of leaflets to be used as enclosures by physicians with their monthly statements. The text for these leaflets was worked out in committee and was related to specific problems such as aspirin poisonings, burns and garage injuries. Other medical societies, schools and industrial concerns asked for supplies of these leaflets for distribution. Approximately 500,000 copies were distributed. Other pamphlet material was made available for distribution by physicians in their offices. This plan offered a concrete way for physicians to demonstrate to their patients and to the public at large their interest in preventive medicine of this type.

Third, the need for greater detail regarding the numbers, kinds and causes of injuries to children was obvious. Our committee is composed of 24 practicing physicians, all of whom have special interests in pediatrics. Even with so many interested doctors, we realized that the job required more than our part-time participation as committeemen. It became important to explore sources of assistance beyond the facilities of our medical association. When we asked the California State Department of Public Health to join us in the research phase of this activity, we found that it was vitally interested and was already doing some work in accident prevention. The result is the present statistical study of the frequency of selected injuries among all the children of Alameda and Contra Costa counties.

^{*} From the Child Welfare Committee, Alameda-Contra Costa Medical Association, and the Bureau of Maternal and Child Health, State Department of Public Health.

Presented before the Section on Public Health at the 87th Annual Session of the California Medical Association, Los Angeles, April 27 to 30, 1958.

Recognizing that definition of accident is difficult, we limited attention to medically attended injuries of children under the age of 15 years, particularly those receiving medical attention at hospital emergency facilities. Twenty-three hospitals in Alameda and Contra Costa counties agreed to cooperate by filling out a simple card on each child seen for injuries in the various emergency rooms. This is virtually complete reporting by hospitals who admit children in such circumstances. Only two small hospitals did not participate. After 14 months of preparation and pilot operation, this system began full operation on January 1, 1957.

Each hospital completes a precoded-marginal-punch card for each child admitted in the circumstances described and mails the accumulated cards every few days to the medical society, where they are assembled and forwarded to the Health Department for epidemiologic analysis. The medical association staff also handles the distribution of the necessary materials to the hospitals. Throughout 1957 a "score card" showing the data gathered was mailed weekly to each participating hospital, to each newspaper in the two counties, and to other interested groups. This seems to have kept the hospitals aware that the result of their work was not gathering dust for some far away day, but was actually being used and was on the way toward further analysis. The hospital cooperation in this enterprise has been superb.

RESULTS

It has turned out that we developed the largest childhood accident reporting system in the United States. The magnitude of the problem is reflected well in the 27,623 cards that were returned from the hospitals during 1957: Statistically the number represents a trip to emergency facilities for care by one child in every 13 in Alameda and Contra Costa

counties. For two weeks in October, the emergency room reporting was supplemented by physician-office reporting to provide an estimate of *total* medically attended accidents to children. It appears that about 50 per cent of children medically attended for trauma receive care outside of emergency facilities. The resulting estimate of 153 medically attended injuries per 1,000 children under age 15 per year is below the estimate of 226 obtained by the 1954-55 California Health Survey.

The principal types of accident and of injury are listed in Table 1. One-third of the children were injured by falls, 19 per cent were hit by objects, 9 per cent ingested potentially harmful substances, 6 per cent were bitten by dogs, 6 per cent were automobile accident casualties, 3 per cent stepped on nails and 2 per cent were caught in slamming doors. The principal types of injuries included 2,136 poisonings, 2,050 fractures, 880 head injuries, and 781 burns, as well as many thousands of lacerations, abrasions, contusions, and sprains. Data on the kinds of accidents that caused death showed that automobile casualties predominated in this category (Table 2).

Sixty-two per cent of the accidents occurred in boys, the preponderance rising steadily with age. The seasonal distribution showed a decided increase during spring and summer, with the lowest frequencies in mid-winter. Sixty-five per cent of the accidents occurred at home, 13 per cent in streets and only 5 per cent at school. The frequency of hospitalization varied from 1.3 per cent for sprains and strains to 20 per cent for head injuries (Table 3).

As to the kind of accident, important differences appeared between the two counties in the survey. For instance, one area with a population of approximately 180,000 showed a rate of poisoning among children that was twice the rate in other areas. Such variables as age distribution and private

TABLE 1.—*Alameda-Contra Costa Medical Association Child Injury Survey, 1957*
Type of Accident by Type of Injury

Type of Accident	Type of Injury									
	Total	Abrasion and Contusion	Burn	Fracture	Head Injury	Laceration	Poisoning	Sprain or Strain	Other	Not Stated
Total.....	27,623	4,302	781	2,050	880	10,072	2,136	1,351	4,292	1,759
Auto collision.....	1,540	657	—	122	114	222	—	35	258	132
Bite.....	2,126	582	—	—	1	436	4	—	540	563
Caught in.....	1,460	736	3	83	1	466	—	26	110	35
Drowning.....	3	—	—	—	—	—	—	—	2	1
Falls.....	9,122	1,291	50	1,385	529	4,096	—	832	657	282
Fire or explosion.....	72	2	56	1	1	4	—	1	5	2
Firearms.....	28	2	3	1	1	1	—	—	17	3
Hit by, against.....	5,139	753	404	216	181	2,818	4	181	485	97
Ingestion.....	2,626	—	—	—	—	8	2,109	—	377	132
Stepped on.....	1,440	69	30	—	—	425	—	4	647	265
Strangling or suffocation.....	21	—	—	1	—	1	1	—	13	5
Other.....	2,661	146	147	131	32	993	10	177	959	66
Not stated.....	1,385	64	88	110	20	602	8	95	222	176

Source: Accidents reported to emergency units of 23 hospitals in Alameda and Contra Costa Counties.

TABLE 2.—Accidents Causing Deaths in Children under 15 Years of Age, Alameda and Contra Costa Counties

Cause	Alameda and Contra Costa Counties*
All accidents, total (E800-E962) †.....	69
Transport, total (E800-E866).....	23
Motor vehicle (E810-E835).....	21
Involving pedestrian (E812, E830).....	11
Involving pedal cyclist (E813, E831).....	3
Other motor vehicle.....	7
Other transport (E800-E802).....	2
(E840-E866)	
Non-transport, total (E870-E936).....	46
Poisoning by solids and liquids (E870-E888) ..	2
Poisoning by utility gas (E890).....	1
Falls (E900-E904).....	5
Fire and explosion (E916).....	9
Hot substances, corrosive liquid and steam (E917).....	1
Firearms (E919).....	2
Obstruction and suffocation by food (E921)....	4
Obstruction and suffocation by other objects (E922).....	1
Mechanical suffocation while in bed or cradle (E924).....	7
Drowning (E929).....	8
Other non-transport.....	6
Other and unspecified (E940-E962).....	—

*Five-year average 1953-1957. Source: State of California, Department of Public Health, Death Records.

†Numbers in parentheses are Sixth Revision International List numbers.

TABLE 3.—Incidence of Kinds of Accidental Injuries Requiring Hospitalization of Children under 15 Years of Age

Type of Principal Injury	Total	Number Hospitalized	Per Cent Hospitalized
Total, all types.....	27,623	1,256	4.5
Head injuries	880	178	20.2
Fractures	2,050	389	19.0
Burns	781	58	7.4
Poisonings	2,136	143	6.7
Abrasions	2,250	69	3.1
Foreign body in eye..	254	7	2.8
Contusions	2,052	49	2.4
Lacerations	10,072	149	1.5
Sprain/strain	1,351	17	1.3
Other	4,038	148	3.7
Not stated	1,759	49	2.8

care utilization do not appear to account for this striking difference, nor are there different ingested substances involved. One area had a particularly low rate of children being struck by automobiles.

FUTURE

Interesting as these figures are, they do not by themselves tell us much about why casualties occur, or how they may be prevented. We believe that the greatest need in this field today is development of reliable knowledge of causation, and believe that

this is best achieved by studying homogenous types of injuries separately, much as we study and control different specific types of infections in different ways.

To this end, we are participating in a series of studies of specific types of injuries, beginning with ingestion of potentially poisonous substances. From our reporting system, we soon found (as have the poison control centers in Chicago, New York, and other places) that childhood poisoning occurs with highest frequency during the exploratory ages of one to three years, somewhat more in boys than girls. We noted also that poisoning usually occurs at home and that the ingested materials are predominantly drugs. Our next step was to make an intensive study of the circumstances leading to each poisoning. For this we used home interviews with the families by a public health nurse from the Alameda County, City of Berkeley or Contra Costa County health departments. Five hundred poison cases were studied in this fashion during last December, January and February. At the same time, 500 similar families who had *not* recently experienced a childhood poisoning were interviewed to determine, among other things, whether their family practices in having or storing poisons in the home differed, and whether there were other differences in the behavior of these children or parents. This information is now being analyzed.

The goal of such research is to provide more effective tools to use in prevention. Thus far our one-year study has produced what appears to be a reliable base-line of data which has several applications. By describing an important part of the childhood accident problem in a known population, it provides a rational basis for determining priorities for action. By identifying individuals with specific types of accidents, it makes possible significant studies of causes and prevention. By continuing, it will tell us whether any preventive actions in the future actually do reduce the frequency of injuries in these counties.

The relationship among the Alameda-Contra Costa Medical Association, the State Department of Public Health, and the health departments of Alameda County, Berkeley and Contra Costa County and the reporting hospitals has been a gratifying alliance. Our Child Welfare Committee hopes this project, as an example of medical leadership in a broad problem which cuts across many aspects of family and community life and involves many other disciplines, sets another standard for medicine's concern with community health.

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Laminectomy for Herniated Intervertebral Disc

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THIS COMMUNICATION is a report of a study concerned with the validity of diagnosis and the short term results of the surgical treatment of the syndrome referred to as herniated intervertebral disc.

The 59 patients embraced in the study were surgically treated at the Cedars of Lebanon, a voluntary general hospital of approximately 500 beds, in a period of two years, 1956-1957. The operations were done by nine staff orthopedists, and there were variations in the surgical techniques employed. The nine staff orthopedists performing all the laminectomies during the period made up one-third of the orthopedic staff of the hospital.

All statistical data used in this study was obtained from hospital and office records; objective confirmatory evidence of disease is not available. Furthermore, all follow-up studies of these patients were conducted by the operating surgeons, and evidence of relief of symptoms is also on the basis of hospital and office records.

In the study attention was given to age, sex, duration of symptoms, precipitating factors, the frequency of certain signs and symptoms, results of myelographic and electromyographic studies, the site of the lesion and the postoperative follow-up ranging from six months to two years.

All the patients received conservative treatment for varying periods before operation. Conservative treatment as mentioned in the history of the present illness, consisted of the following regimens: Bed rest, traction, physical therapy, local xylocaine and hydrocortone infiltrations, manipulations and use of body casts and body braces.

The age range of the patients was from 21 to 67 years. The great majority (52 per cent) were between 30 and 49 years of age (Table 1). Most of them were healthy and active, but six had had back pain intermittently from four to eight years. There were 32 men and 27 women. The duration of symptoms ranged from four days to eight years (Table 2). In all cases the onset was characterized by an acute phase, and in all cases but one the symptoms were reported as having been relieved temporarily by conservative therapy, but one or more recurrences followed.

• In a study of 59 patients surgically treated by various surgeons for relief of herniated lumbar intervertebral disc accompanied by symptoms that persistently recurred or had become resistant to conservative therapy, it was noted from review of hospital and office records that laminectomy either greatly relieved or entirely abated symptoms in 83 per cent of the cases.

Postoperative complications reported by the surgeons who did the operations consisted of one death and five wound infections. Contrast myelography and electromyography, used in almost all cases in the series, appeared to be valuable adjuncts in the diagnosis of herniated lumbar intervertebral discs. The most common site of the lesion in this series was between the fourth and fifth lumbar vertebrae. Strain upon lifting was the most commonly reported precipitating factor.

The precipitating factor (Table 3) was a lifting in fourteen cases, injuries received in automobile accidents in seven cases, and injury due to a fall in eight cases. There was no reported precipitating factor in 28 cases.

TABLE 1.—Age of Patients Operated on for Relief of Herniated Intervertebral Disc

	No. Patients
20 to 29.....	11
30 to 39.....	12
40 to 49.....	19
50 to 59.....	11
60 to 69.....	6

TABLE 2.—Duration of Symptoms Before Operation in 59 Patients Treated for Intervertebral Disc Herniation

	No. Patients
0 to 6 months.....	30
7 to 12 months.....	13
2 to 3 years.....	7
4 to 5 years.....	3
6 to 7 years.....	3
8 to 9 years.....	3

TABLE 3.—Precipitating Factor in 59 Cases of Herniated Intervertebral Disc

	No. Patients
Lifting injuries	14
Fall	8
Auto accidents	7
Twisting	2
Not known	28

Presented before the Section on Orthopedics at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

TABLE 4.—Incidence of Various Symptoms in 59 Patients with Herniated Intervertebral Disc

	No. Patients
Low back pain.....	59
Pain radiating down both legs.....	7
Pain radiating down one leg.....	46
Left.....	27
Right.....	19
No radiation of pain.....	6
Weakness of affected extremity.....	9
Paresthesias.....	21
Increased pain on cough or sneeze.....	15
Increased pain on standing or sitting.....	12

The symptoms which were found to be most constant in this group of 59 patients were: Low back pain, radiation of pain to the leg and sensations of hypesthesias, hyperesthesias and weakness.

Low back pain was present in all patients and varied from a severe, sharp, stabbing pain to a dull ache. The pain was present constantly and was relieved to varying extents in 47 patients (80 per cent) by recumbency in a comfortable position. In five of the patients (8 per cent) the pain was described as originating in the leg or ankle and radiating to the low back.

Pain radiating to the leg was present in 53 of the 59 cases. In seven cases the pain began in the low back region and radiated to both legs. In the remaining 46 cases the pain radiated down one leg, the left leg more frequently than the right (Table 4). In 52 of the 53 cases the pain was felt in areas corresponding with the distribution of the sciatic nerve, but in one case it only radiated along the lateral side of the thigh on the affected side. The pain in the low back region did not radiate in six patients. The pain was increased by coughing or sneezing in 15 patients and by sitting or standing in 12 patients. Paresthesias of the affected extremity were described by 21 patients and weakness of that extremity by nine.

The physical signs which were found to be most constant as noted in the records of these patients were: (1) Pain on straight leg raising, (2) loss of deep tendon reflexes, (3) a mild sensory loss and (4) limitation of flexion and extension of the trunk. Pain on straight leg raising on the affected side, the most common physical sign, was present in 56 of the 59 patients. A mild sensory loss was present on the lateral aspect of the calf on the affected side in 25 patients. This defect was mainly a diminution in the sensation of pin prick and a decrease in the ability to distinguish between sharp and dull stimulation. Loss of deep tendon reflexes in the painful extremity was present in 35 cases. Twenty-one of the 35 patients had decidedly diminished ankle jerk on the affected side, nine had pronounced decrease of knee jerk on the affected side, and in five others both the knee and ankle jerk in the affected extrem-

TABLE 5.—Results of Myelograms in Patients

Number performed.....	55
Positive.....	49
Equivocal.....	4
Negative.....	2
Not done.....	4

ity were diminished. There was demonstrable extensor hallucis longus weakness in 13 cases. Limitation of extension and flexion of the trunk because of pain was present in 25 cases and was associated with muscle spasm which was described as grossly visible or easily palpable.

The increasing use of contrast myelography and electromyography as corroborative evidence in the diagnosis of herniated lumbar intervertebral discs is well documented in this series (Table 5). Fifty-five myelograms were done and of these 49 were read as showing positive lesions while only four were considered equivocal. There were two patients who had myelograms that were interpreted as negative but in whom herniated lumbar discs were observed at operation. In four cases myelography was not done. Electromyography was performed in 15 cases, and in 14 of them the results were suggestive of irritation or compression of the nerve root at the suspected level.

The site of the herniated lumbar intervertebral disc as reported by the surgeon was between the fourth and fifth lumbar vertebrae in 39 cases, between the fifth lumbar and the first sacral in 20 cases. In six cases there were lesions at both sites.

All of the patients had conservative therapy for from one week to one year and in some cases intermittently for many years before operation was done. Most of the patients, as stated before, had relief of symptoms upon conservative therapy, then recurrence. In most cases the attending surgeon recorded his impression that he had resorted to operation because conservative treatment had failed.

All the patients had laminectomy and 14 of them also had an arthrodesing operation at the same time. In four cases there was revision of a previous "unstable fusion." In all cases the operating surgeon reported that evidence of derangement of the intervertebral disc of some type was visualized at operation.

At the time of discharge from the hospital all of the patients were reported as being relatively symptom-free. However, most of them had had a mild recurrence of low back pain within the first six months after operation, which was said to have been relieved by conservative measures. A year after operation the patients could be classified as being either symptom-free or having intermittent recurrences of low back pain. A more specific analysis of the two groups follows.

Thirty-three of patients still had varying degrees of low back pain. (One of the patients died post-operatively.) Lest the data be misleading, a further division into three groups was made: (1) Those who had no improvement after operation, (2) those who had a large measure of improvement after operation but still had occasional mild low back pain or related symptoms, and (3) those who had no symptoms at all and were considered "cured." In the first group there were ten patients. One of them was a narcotic addict undergoing psychoanalysis, two were persons with pending compensation cases, three had reinjured their backs one or more times after operation.

The second group was made up of 23 patients, all of whom had mild recurrent low back pain. Two of them obtained relief of the pain by wearing a back support. In one, relief is obtained by local subcutaneous injection with xylocaine, and in the other 20 all forms of conservative treatment were used in order to bring the patient some relief from his symptoms.

In the third group—those who were symptom-free within a year—there were 25 patients. Thirteen of them were entirely asymptomatic upon discharge from the hospital and never reported a recurrence of pain. The remaining 12 had one or more exacerbations of low back pain, treated conservatively, and then within a year's time were entirely asymptomatic.

Complications of the surgical procedure occurred in six patients. There were five reported cases of local wound infection which cleared when treated with the appropriate antibiotic. There was one death postoperatively, from a pulmonary embolus. The patient had undergone simple laminectomy. There were no reported complications in patients who had had spinal fusion concomitantly.

In reviewing the above data and considering the usefulness of laminectomy as a definitive treatment for low back pain associated with or caused by a herniated lumbar intervertebral disc, it is to be noted that the cure rate approximated 43 per cent. As to laminectomy as a treatment for relief of symp-

toms, in the present series it relieved symptoms that had become refractory to conservative therapy in 83 per cent of the patients, at least for the duration of the study (two years).

In comparing the operation of simple laminectomy with laminectomy and fusion, it was observed in perusal of hospital and office records that in 13 of the 14 cases in which an arthrodesing operation was performed, relief of symptoms was said to have occurred.

An imponderable in interpreting the validity of laminectomy as a treatment for low back pain is that a significant number of the patients are involved in some kind of litigation.

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Serotonin

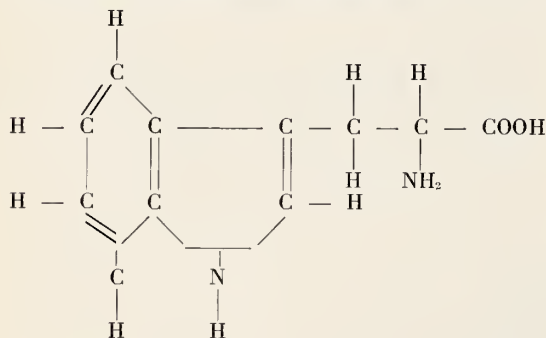
Its Possible Relation to Allergic Disease

M. COLEMAN HARRIS, M.D., San Francisco

SINCE ITS ISOLATION some 11 years ago, serotonin (5-hydroxytryptamine) has captured the interest of the medical world. It is abundant in the platelets and other cells such as the mast cells of the human body. In nature, it has been found in bacterial pigments, in the salivary gland of the octopus and in the venom of tropical toads. It has been liberated from plants and is said to have been used by primitive people to produce trance-like states for ritual purposes.

The history of how serotonin was isolated and reports on where it is found, its significance and analytical determination are most interesting. The isolation and identification of serotonin was performed by two research teams working independently. Priority belongs to Rapport, Green and Page.¹⁵ They isolated it from beef serum in 1948. At that time, a colleague of theirs, Corcoran, coined the term *serotonin* for this substance and later, in a letter to the *Journal of the American Medical Association*,³ advocated the exclusive use of this term. Three years later, Erspamer⁴ identified enteramine, a vasoconstrictor which he had been studying as a hormone of the enterochromaffin system, as 5-hydroxytryptamine and noted that it was identical with the compound isolated by Rapport and co-workers.

Serotonin is easily synthesized. The precursor is the common amino acid, tryptophan:



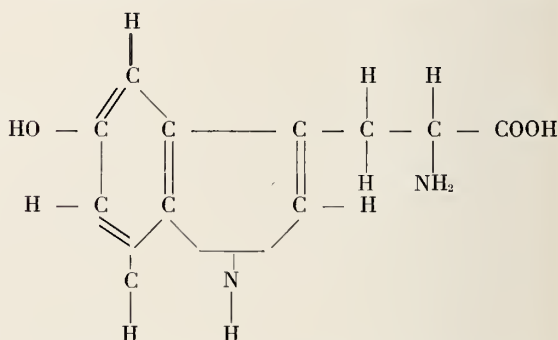
By addition of a hydroxyl group in the 5 position, a change which is presumed to take place in the liver, the immediate precursor of 5-hydroxytryptophan, is formed:

Presented before the Section on Allergy at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

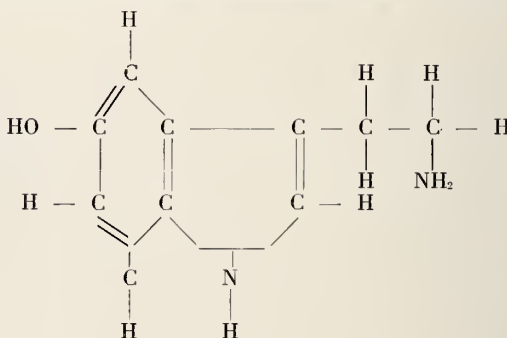
• Increased amounts of serotonin as well as histamine have been found in the blood of animals during anaphylactic shock. Certain animals, particularly those in which antihistamines do not prevent anaphylaxis, have been found to have increased quantities of serotonin in the lung tissue during anaphylactic shock.

Serotonin is a chemical derived from the amino acid tryptophan, which is widely distributed. It is excreted in the urine as the metabolite 5-hydroxyindoleacetic acid. Serotonin has been found in increased amounts in the blood of patients with carcinoids. The increase of serotonin in the blood and the finding of the excretory product in the urine has become a corroborative sign of the disease. The involvement of serotonin in the production of mental disease is evidenced by the effect of serotonin antagonists, which appear to influence mental behavior.

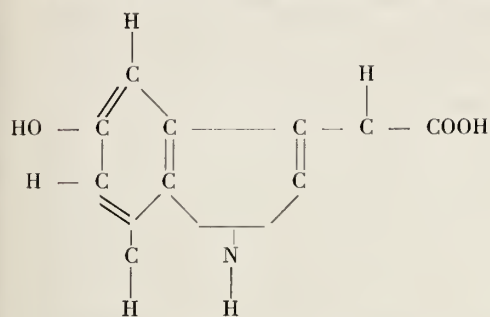
That serotonin antagonists may be of ultimate value in the treatment of allergic disease is a possibility to be considered.



Finally, by loss of carbon dioxide from the amino group, which probably occurs in the wall of the intestinal tract, the liver, the kidney and presumably the brain also, the ultimate compound, 5-hydroxytryptamine (serotonin), is formed:



The inactivated excretory product, 5-hydroxyindoleacetic acid, is formed by oxidation and removal of the amino group by the enzyme, amine oxidase:



There are numerous ramifications of the physiological activity of serotonin. It is said to be involved in abnormal mental behavior, in microcirculation of the skin, in renal function, in muscular activity, in vasodilatation of the pulmonary circulation, in bronchoconstriction and in intestinal tumors. Lembeck¹² found that carcinoid tumors called argentifinomas (because of their characteristic staining with silver) contained large amounts of serotonin. He speculated that an overproduction of serotonin, with subsequent serotoninemia, could be an important and reliable diagnostic sign in this condition. Tests were devised to determine the amount of serotonin in the blood,¹⁹ and of the breakdown product, 5-hydroxyindoleacetic acid in the urine.¹⁸ These tests are now routinely used.

Much of the current research on serotonin is concerned with its physiological effect on the central nervous system, where it appears to influence mental processes. For those interested in allergic diseases it is important because of the fact that it is present and is a bronchoconstrictor of the lungs of certain animals during anaphylaxis²¹ together with the enzymes which make and destroy it, as well as in the blood stream in company with histamine.²⁰

Clinically, the first suggestion that serotonin might be implicated in allergic diseases was the report of Waldenstrom's group.¹⁷ Thorsen, Waldenstrom and co-workers described several cases of metastatic, malignant carcinoid tumors in several of which asthma was a part of the clinical picture. One case was that of a 19-year-old boy, who from the age of six had dyspnea upon exertion and who had been hospitalized in three successive years, when he was nine, ten and eleven. Another case was that of a 63-year-old man, who for nine years until two years before he died had attacks of nocturnal dyspnea, with wheezing respiration and cough which were relieved by injections of epinephrine. In another case a 43-year-old woman had had wheezing and shortness of breath for three years, from the age of 37 to 40, which was diag-

nosed as asthma. It is assumed that the asthma in these cases was due to the bronchoconstricting activity of serotonin since later these research workers were able to reproduce all the clinical symptoms, including asthma, by administration of serotonin.

In animal experimentation, when serotonin is inhaled by a guinea pig as a 1 per cent aerosol, bronchial spasm with severe dyspnea followed by convulsions results.⁷ Duration of the exposure and symptoms are the same as those which occur with aerosols of 0.5 per cent histamine phosphate, or 0.25 per cent acetylcholine. Since Neo-Antergan (pyrilamine) completely protects against histamine and gives considerable protection in guinea pigs against anaphylactic shock, it was thought that it might antagonize serotonin activity as well. However, 1 mg. per kilogram of body weight of Neo-Antergan when injected into the guinea pig one hour before aerosol administration, produced no anti-serotonin activity. On the other hand, atropine sulphate, 0.32 mg. per kilogram of body weight, which protects against the effects of acetylcholine, and very slightly against anaphylactic shock, rendered considerable protection against serotonin activity. This would appear to suggest that the effects of serotonin in producing bronchospasm in the guinea pig are purely of a chemical nature and not necessarily involved in the anaphylactic reaction as a result of antigen-antibody union.

In an analysis of the actual presence of serotonin in the lung, and in an attempt to evaluate its implication in the pulmonary aspects of anaphylaxis, Weissbach, Waalkes and Udenfriend²¹ presented some interesting data. Measuring the amounts of serotonin in the lungs of various animals that had been sensitized, and then shocked to produce an anaphylactic reaction, they found a decided difference in the quantities, the difference depending upon the kind of animal used. They noted that guinea pig lungs contain little serotonin, while the lungs of mice, rats and rabbits contain relatively large amounts. These findings were in sharp contrast with the amount of histamine found in the lungs of similarly shocked animals. Guinea pig lung has been shown to contain comparatively large amounts of histamine, while mouse lung contains little. It is postulated that this explains why in guinea pigs anaphylaxis is readily prevented by pre-treatment with histamine antagonists, while anti-histaminic drugs have little if any effect on anaphylactic shock in mice. One might infer that other animals may have serotonin alone, or perhaps a combination of serotonin and histamine, released as the agents responsible for the symptoms of anaphylactic shock.

One cannot evaluate human anaphylaxis on the basis of results of animal experimentation alone. In animals, it has been traditional to consider one

shock organ as a constant site of the antigen-antibody reaction, the shock organ varying with the kind of animal involved. In guinea pigs the symptoms have been described as due to bronchoconstriction, the animal dying in asphyxia. In rabbits, spasm of the pulmonary arterioles appear to be the result of anaphylactic shock, with the animal usually reported as dying a characteristic "liver death" from dilatation of the portal veins. This exact choice of shock organs, however, is not always constant. Rabbits, which should die of right heart failure, have been reported dying from asphyxia in some cases.

As might be expected, the human shock organ shows even less constancy.

In reviewing autopsies performed on humans who died of anaphylaxis, Kojis¹⁰ found several who died of the guinea pig type, several of the dog type, one of the rabbit type and one of a combination of the guinea pig and dog type. In a case of anaphylactic death following skin tests for allergic sensitivity, which a colleague and I had occasion to study,⁶ the patient showed predominantly the guinea pig type of response, although there were elements of other types which could not be ruled out completely. It is clear that, although the guinea pig type appears to predominate, humans have no constant kind of shock tissue response to anaphylactic reactions. If humans could be subjected to experimentation with fatal anaphylaxis, it might be shown that no one type would predominate; that anaphylaxis in the human might resemble any animal type, or a combination of them.

To determine if serotonin was capable of producing clinical asthma in humans, assuming that it is released during an antigen-antibody reaction, Herxheimer⁷ subjected ten subjects to the inhalation of 0.67 per cent serotonin for 60 seconds. Four of his subjects were healthy persons with no history of asthma. In those, there was no effect on vital capacity or expiratory speed, no dyspnea and no evidence of asthma. Of the remaining six patients, who were chronic asthmatics in a remission, three had a pronounced attack of asthma following the inhalation of the serotonin and two had respiratory difficulty just short of clinical asthma. This indicated that the effect of serotonin in man is similar to that of histamine and acetylcholine: It is claimed by many investigators that an attack of asthma can be provoked in chronic asthmatic persons by these agents, but not in the normal individual.¹⁶ Herxheimer's study further implicates serotonin as a possible influence in the production of asthma due to allergic reaction.

On the other hand, it has been shown that when dealing with *isolated* human bronchioles, serotonin not only does not constrict them, but large doses

actually relax them. This is not true of other animal species, notably the cat, for example, whose isolated bronchioles contract vigorously when subjected to quite low concentrations.² In this situation, however, one is dealing with *isolated* bronchioles. Of more importance, probably, is the fact that when serotonin is continuously infused in man, it has been shown that destruction takes place at a high rate in the blood stream. When destruction is prevented by 5-hydroxytryptophane, the accumulated serotonin produces severe diarrhea, but no dyspnea, either of bronchomotor or vasomotor origin.¹³ However, it is well known that certain drugs when injected into the human body do not always have the same effect as the same drugs elaborated within the human body. Histamine, for example, recognized as one of the chemicals liberated in the anaphylactic reaction, often produces symptoms that cannot be duplicated by injection or other form of administration.

There is another study which at first glance also appears to contradict the importance of serotonin in allergy diseases. This is the report of Mohler¹⁴ who analyzed 1120 random urine specimens from hospital patients for 5-hydroxyindoleacetic acid. None of the specimens showed the metabolite to be present. This report included 1023 patients in a normal hospital population. Although it is unlikely that many cases of carcinoid tumors were present, it is very probable, in light of the comparatively high prevalence of allergic disease among the general population, that a large percentage of these patients had allergic sensitivity and had some dormant if not active form of allergic disease. Such a study might prove that the urinary finding of the breakdown product of serotonin is an excellent test for carcinoid, but not exact enough for allergic disease.

Another interesting recent study is that of Berg and Westermeyer.¹ They examined the urine specimens of 52 asthmatic persons for 5-hydroxyindoleacetic acid and found that it was present in a varying degree, the variation according with the severity of the asthma. They expressed belief that this is due to the presence of an elusive substance in the urine which is difficult to isolate, but which combines with 5-hydroxyindoleacetic acid in the urine to form a complex which dissociates under certain conditions. Although this may be the case, it is also possible that serotonin is not excreted in the severe cases, but is stored in the lungs or in the blood and tissue cells in asthma.²² This may be the explanation, at least in part, for the absence of the metabolite in the urine of patients with asthma.

More pertinent to the practicing physician who treats patients with allergic sensitivity is the possibility that a serotonin antagonist might be found which would neutralize the effect of serotonin, pro-

vided it shall be conclusively proven both that serotonin is released during the course of an antigen-antibody reaction in humans and that it is of importance in the production of asthma or some other manifestation of the allergic state. In the study of mental disease, many drugs have been tested for their anti-serotonin activity. These include reserpine, LSD (lysergic acid diethylamide), and BAS (1-benzyl-2-methyl-5-methoxytryptamine), which is the benzyl analogue of serotonin. Experiments with the latter seem to verify that anti-serotonin activity may be in the form of a true displacement of the chemical from tissue by a specific metabolite. That an intermediary metabolite is involved as well, is suggested by the fact that parenteral use of serotonin produces peripheral symptoms, but no symptoms referable to the central nervous system. When given parenterally, serotonin does not pass the blood-brain barrier.

A group of serotonin antagonists were also investigated by King.⁹ He perfused the lungs of guinea pigs to test the antagonism of these drugs to bronchoconstriction brought about by doses of 12.5 to 40 micrograms of serotonin. The following drugs were tested: chlorpromazine hydrochloride, BOL-148 (2-brom-d-lysergic acid diethylamide), narcotine hydrochloride and Sandostene (methyl-aminophenyl-thenyl-piperidine tartrate). Sandostene was the most effective. In doses of 250 micrograms it was capable of completely antagonizing bronchoconstriction.

It is noteworthy that excellent results have been reported in the clinical treatment of asthma with Sandostene plus calcium.¹¹ Gaynes and Shure⁵ reported excellent results with this drug in the treatment of allergic pruritis. It is speculated that these good therapeutic results may have been due to the anti-serotonin activity of Sandostene.

No definitive statement can be made as to the actual effectiveness of serotonin antagonists. The problem is a complicated one. Antagonism is not merely the conversion of a chemical radical; it involves anti-metabolic processes which probably require occupation of the specific receptors normally used by the metabolite that is being replaced.

It is clear that much more data must be obtained before a satisfactory answer can be given to the question whether or not serotonin is implicated in diseases of allergy in humans. This problem is intriguing many medical research teams throughout the world, some of whom have been quoted in this communication. The results of their research will be watched closely. To quote Beckman:²³ "The picture is still blurred and it is too soon to know whether the completed canvas will be truly representational or merely a non-objective presentation that is pleasing, but in itself not significant. Never-

theless, I look upon these serotonin-LSD developments as the two most important of current pharmacological topics—although neither of the two agents is actually a drug." What Beckman said in 1957 is applicable in 1959.

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The Anesthetist in the Practice of Medicine

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EXCEPT FOR a relatively few patients who come directly to him because of persistent pain or need of pneumatologic therapy, an anesthetist's practice is limited to patients referred to him by other physicians, usually surgeons. An unusual feature is that the anesthetist not only evaluates the status of the patient and suggests therapy but also administers the therapy in association with the surgeon. This is in contrast to the usual order of consultation in which the consultant examines the referred patient, makes a diagnosis and suggests therapy which is then applied by the patient's physician.

In this day of great specialization, there is a strong tendency to shift patients from one specialist to another in attempts to arrive at diagnoses and therapeutic procedures. Although this approach most often does what it is intended to do, perhaps more often than is warranted it results in confusion, inaccurate diagnosis and scrambled therapy. There is considerable merit in the fundamental principle that one physician must be responsible for the patient's welfare. This physician may enlist the aid of others, but the ultimate decision that influences the patient must be his.

The decision of the patient's physician to accept or reject the suggestions of the consultant depends upon a number of factors. The patient's physician is in the most favorable position to determine the therapy because he is most familiar with the background of the patient and the disease; he knows the progress of the disorder, the reactions of the patient to the situation, and he knows that he will be responsible for the results of the therapy. The extent to which the patient's physician uses the advice and professional service of consultants depends in large measure upon the confidence he has in those consultants. His confidence is the natural product of favorable experience over an extended period.

The physician entering the specialty of anesthesia often overlooks this important aspect of the practice of medicine. He may not remember that he is in a consultant capacity and cannot make a diagnosis or administer to the patient independently unless given that privilege by the patient's physician. Usually, as in the case of other consultants, this privilege is not extended until the patient's physician has de-

• In this age of specialization it is often difficult for the patient to determine who "his doctor" is. In the circumstances of anesthesia and surgery, the professional services of both physicians, the anesthetist and the surgeon, are highly integrated and the lines of responsibility must be clearly established. In the particularly close associations between anesthetist, surgeon and patient there is an urgent need for the application of scientific method in order to facilitate communication, improve the approach to the solution of problems, and enhance the welfare of the patient.

veloped complete confidence in the consultant. This confidence is not established automatically; unqualified recognition does not come immediately upon completion of approved training or even upon certification by the American Board of Anesthesiology.

Confidence is developed during the close association of anesthetist and surgeon in circumstances of stress. It grows from consistent demonstration by the consultant that he is familiar with the patient's disorder, that he is well versed basically and clinically in the practice of anesthesia, that he is alert to changes in the patient and in the demands of the surgical procedure, that he is genuinely concerned with the patient's welfare and with the progress of his disorder.

Discussion with the surgeon of all problems relating to the consultant's interest in the patient, before, during and after operation, will help to establish confidence. Imparting of pertinent information throughout these periods is a part of such discussions. For example, if a significant change occurs in the patient's condition—say a decrease in blood pressure—this information should be imparted to the surgeon. It is quite as important that the surgeon not neglect informing the anesthetist of the progress of and any unusual developments in the operative procedure. Neither becomes subservient to the other by such reporting. This point is somewhat labored here because for some unaccountable reason the anesthesia screen seems to be a barrier to communication. The barrier thwarts the patient's interest.

By some evolutionary process, or perhaps by authoritarian pronouncement of unknown provenance, a sort of grade-labeling is applied to the practitioners of anesthesia: Nurses are "anesthetists" and

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physicians are "anesthesiologists." These labels are based on arbitrary rules that imply that an "anesthetist" is less qualified to practice safe, satisfactory and comfortable anesthesia than is an "anesthesiologist." Labels like these, which totally disregard any evidence that may be contrary to the established precepts, are a reflection of an attitude that justifies the bungling and lethal efforts of the self-styled physician "anesthesiologist" and attempts to impugn the competent, experienced and often scientifically minded nurse-technician.

What are the factors that induce the nurse and the physician to take up the practice of anesthesia? What are the academic and clinical standards for the technical administration of anesthesia? What are the academic and clinical standards for the practice of anesthesia, including evaluation of patients, adaptability to change and the conduct of research? More importantly, by what process and what methods are the preceding standards developed, and are these standards subjected to constant revision in the light of new observations?

It may be assumed by some observers (although to me it seems that there is no evidence to warrant the assumption) that the above questions are to be put, the observations made and the results evaluated by physicians in the practice of anesthesia. To me it seems proper that all who are concerned with the practice of anesthesia—nurses, hospital administrators, surgeons and others, as well as anesthetists—should ask the questions and make the observations. The cooperative, unbiased, unemotional—in short, the scientific—approach to the problem is essential to a solution. And the solution must be subject to alteration as the need is demonstrated.

The method of science consists of asking clear questions, making direct, unprejudiced and thorough observations, using those observations to answer as well as possible the questions asked, and revising or discarding any previously formed beliefs or assumptions that cannot stand in the light of the new observations.

It is well to emphasize that science as a method is not utilized to its fullest extent if the process ceases with a single application of the method. New questions must be asked and new observations made for scientific profit to the individual or to our culture.

One of the more fascinating aspects of the practice of anesthesia is the multiplicity of problems. It is difficult to ignore the succession of intriguing

opportunities for reflection, study and investigation. Nevertheless, these opportunities are too often abandoned by resorting "to the book," by retreating behind "accepted practice," or by militantly supporting "authority." By so doing, one consistently constricts his outlook and becomes gradually but surely a simple technician instead of a practitioner of medicine. Such an approach to practice is not excusable; even less forgivable is the failure to recognize the innumerable questions inviting inquiry.

Such attitudes will not lead to answers to the basic question of the mechanism of the production of the anesthetic state, to the solution of the mystery of the distribution of anesthetic agents, to the clarification of "fixing" of anesthetics introduced intrathecally, to the determination of the manner in which d-tubocurarine is so rapidly removed from the circulation, to a better understanding of the mechanisms involved in the production, perception and response to pain, to the prevention of nausea and emesis associated with the administration of narcotic drugs, or to the delineation of many other problems.

Not everyone has the time, the facilities, the financial support or the inclination to conduct full-scale clinical or laboratory investigation into the problems that come to his attention. However, everyone who accepts and enters medicine as a profession is obligated to maintain an agnostic attitude, to raise questions and to search for answers. Research is defined as a diligent and systematic inquiry into a subject in order to discover facts or principles. It is a process in which everyone in the practice of medicine can and should participate. It is a process intrinsic in those who possess and develop an open mind. It is a continual process that is not restricted to the laboratory; it should be used in the clinic, in the library, in the easy chair at home, in the dressing room at the hospital, in the occasional free hour in the office.

The practitioner of medicine who accepts the invitations for inquiries that are presented in the specialty of anesthesia avails himself of the opportunity to exploit his background of basic science in the solution of clinical problems. What other specialty in medicine offers to the physician more dynamic, more acute and more profound changes, the investigation of which promotes the welfare of the patient, enhances medical knowledge and encourages a happy and productive professional life?

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Psychiatric Emergencies

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FOUR PSYCHIATRIC disorders that frequently are emergencies* are:

- (1) The acute brain syndrome (toxic delirium),
- (2) Depression and suicidal tendency,
- (3) Hypomania,
- (4) Incipient schizophrenia.

The cardinal symptoms of the acute brain syndrome are: confusion with disorientation (impairment of consciousness); hallucinations (often multiple and very vivid); motor disturbances (usually hyperkinetic); and emotional disturbances (commonly fear). Historically, much credit is due to Bonhoeffer, whose classic study in 1908 demonstrated a common base for the separate disorders heretofore described under the headings of twilight states (*dammerzustande*), hallucinoses (Meynert's amentia), and hypermotility (delirium). Because of the difficulties in examining patients who are highly disturbed, clinicians tend frequently to refer them to psychiatrists without adequate medical examination and history-taking. General hospitals often prefer not to admit such patients. Much harm, even death, may occur because of the failure to recognize that meticulous physical and laboratory examinations are necessary. Failure to find an adequate etiologic base for this syndrome should lead to special neurologic diagnostic procedures such as electroencephalograms, spinal fluid examination and x-ray studies of the skull. In addition, these patients frequently need excellent nursing care and most often do best in a general hospital.

Depressive patients are more likely to commit suicide in psychotic depressions than in psychoneurotic depressions. In cases unassociated with psychomotor retardation, at times of holidays and anniversaries and in patients harboring suicidal preoccupations, the intensity of distress is the important thing to gauge. One cannot rely on a patient's statement that he would not commit suicide, because of affection for his dear ones or because he considers suicide "cowardice," when one knows that the patient is nevertheless preoccupied with

thoughts of suicide and with actual procedures for carrying them out. Such intent, even when sincere, loses its value when the depression becomes intensified, even transiently, as it might in unpredictable circumstances. The recovering depressive patient becomes a greater suicidal risk at times because he is less inhibited after the removal of the former psychomotor retardation, while the depression is not entirely gone.

A hypomanic patient, because of his lack of insight, may inadvisably get in or out of marriage, illegitimate pregnancy, accidents or "wild hare" business enterprises. One should mobilize all the family resources available to impose safety curbs upon the patient. The patient's congenial manner, infectious humor, bright and scintillating conversation, may serve to make a truly necessary commitment a matter of extreme difficulty. Even at the expense of a jury trial in which one fears the patient will probably appear convincing, commitment procedure is nevertheless necessary many times to spare utter ruining of career and fortune, as well as havoc to personal life.

Incipient schizophrenia presents a special problem because the earlier treatment is instituted the greater the likelihood of satisfactory results. Schizophrenia presents diagnostic problems even for many psychiatrists. When it is in the earliest stages, diagnosis may be particularly difficult for a physician who is not a psychiatrist. Neurotic-like symptoms with the impending sense of catastrophe, increasing withdrawal from occupational and social activities, eccentric, odd behavior, feelings of outside control of thoughts and emotions, sudden revelations, isolated hallucinations (particularly if auditory and meaningful), attributing specific significance to irrelevant events, awkwardness of movements or postures—all these phenomena may be isolated, earliest manifestations of this most serious disorder. Because of the desire on the part of the family not to face the unpleasant prospect, these patients often do not see a psychiatrist until the illness has progressed to a point at which prognosis is quite poor. The emphasis is therefore on early recognition, and early consultation and referral to appropriate psychiatric resources.

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*More fully discussed in Psychophysiologic Medicine, Ziskind, E., Lea & Febiger, 1954, Chapter II.

The Management of Chylothorax

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IN ELEVEN YEARS the problem of chylothorax has changed from one in which half the patients died to the present low mortality rate. This pronounced improvement in prognosis is the result of better understanding of both the nonoperative and operative treatments of the condition.

Chylothorax may be defined as the presence of chyle in the free pleural space and can be divided into two groups, spontaneous and traumatic. The spontaneous cases are usually, although not invariably, associated with fatal disease, such as lymphosarcoma, Hodgkin's disease, carcinomatosis or severe tuberculosis.⁸ It is believed that in such cases the tumor invades the duct wall, permitting leakage of chyle. This theory is made more credible by experimental and clinical studies that amply demonstrate that chylous effusion cannot be produced by mere ligation of the thoracic duct.³ Cases of spontaneous rupture not due to invading diseases are rare and the cause is thought to be fixation of the duct so that it may tear with sudden extension of the spine upon severe coughing.

Traumatic cases of chylothorax may be due to penetrating injury, such as gunshot or knife wounds, or to nonpenetrating injury, such as concussion of the chest. As the number of thoracic operations has increased, more cases secondary to accidental surgical division have appeared. Damage to the thoracic duct has been reported during many intrathoracic operations, notably dorsal sympathectomy, esophagectomy, and various vascular procedures. Chylothorax has also frequently been reported secondary to operations in the neck, particularly on the left side.

The anatomic structure of the thoracic duct may be described briefly as follows: The duct begins in the abdomen as the cisterna chyli, a globular structure 3 to 4 cm. in length and 2 to 3 cm. in diameter that overlies the first and second lumbar vertebrae. The duct consists of a single main trunk in about 40 per cent of cases; in the remaining 60 per cent it is double or multiple for at least part of its length. The duct overlies the bodies of the vertebrae between the azygos vein and the aorta as it ascends in the thorax. In the upper thorax it crosses

• Chylothorax is readily diagnosed from the characteristic qualities of the effusion. Treatment should initially be conservative, consisting of multiple aspirations followed, if necessary, by suction drainage.

Approximately half of the patients will not respond to these measures, and direct ligation and division of the duct is necessary for cure. This operation is most readily carried out through the right chest, the thoracic duct being ligated just above the diaphragm. In cases in which the duct is surrounded by tumor, radiotherapy to the mediastinum is often successful in controlling the reaccumulation of chyle, but irradiation is generally not recommended until after a tissue diagnosis has been made by thoracotomy.

Nutritional problems are often concomitants of chylothorax.

to the left and empties into the left jugular-subclavian veins. An accessory thoracic duct drains the right side of the head, neck, and upper thorax, and empties into the right jugular-subclavian veins. Valves in the duct are 4 to 8 cm. apart in the upper portion and are generally absent below the sixth thoracic vertebra. These valves are competent and prevent retrograde injection from above. Microscopically the duct differs from veins of a similar size in that it is more muscular and the layers of the wall are less sharply defined.³

Diagnosis of chylothorax is made by the character of the effusion. The fluid is milky in appearance and may be pink from small amounts of red cells. It is sterile, odorless and contains abundant lymphocytes. The contained fat droplets may be seen microscopically and can be stained with a lipophilic dye such as Sudan III. The emulsion may be cleared by shaking with ether.⁷ The fluid is bacteriostatic.⁵ To absolutely identify the effusion lipophilic dyes may be given by mouth. The dye will later be seen in the effusion if it is truly chyle. A green dye is recommended, since its color will contrast with any normal constituent of the effusion, such as blood.⁴ The most convenient way to give these dyes is to mix them with butter and serve the mixture in a sandwich.

Nonoperative treatment should be tried first, since simple aspiration of the chest will suffice in about half the cases. Thoracentesis is done as often as is necessary to keep the chest reasonably empty and

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to prevent dyspnea. Cure of the effusion probably results from obliteration of the pleural space rather than from actual healing of the rent in the thoracic duct. If chyle continues to reaccumulate after a period of ten days of aspiration treatment, closed catheter drainage of the pleural space should be tried.^{7,9}

Surgical intervention is indicated if closed drainage fails after a period of two weeks. Although several techniques have been described, such as anastomosis of the thoracic duct to the azygos vein,¹ and direct repair of the duct,⁹ it has been amply demonstrated that simple ligation of the duct just above the diaphragm can be curative. The thoracic duct is most readily approached through the right chest, and it can be most easily identified if fat is administered through a Levine tube several hours before operation. At the level of the diaphragm, the duct overlies the vertebral bodies and is found between the azygos vein and the aorta. To be certain that a double channel of ducts does not exist, an x-ray film of the chest is made with portable equipment at the time of operation after injection of the duct with a radiopaque medium, such as 5 to 10 cc. of Urokon.^{®10}

If the effusion is on the left side, with possible encasement of the lung by fibrin, a left thoracotomy approach to the thoracic duct may be indicated in order that decortication may be done at the same time. However, it should be emphasized that the left approach to the duct may be difficult because of the presence of the descending aorta, which often necessitates the ligation of several intercostal arteries in order to reach the duct. A short section of the duct should be excised for histologic examination to make sure it is the thoracic duct and to look for possible malignant invasion. If accessory or double ducts are seen in the previously mentioned ductogram made at the operating table, they also should be ligated and divided.

Because of the large fat and protein content of chyle and the rate of reaccumulation in many cases of chylothorax, nutritional problems may develop. Obviously a high caloric, high protein diet is desirable. In addition, some investigators have reported reinfusing, intravenously, the chyle removed by thoracentesis from debilitated patients.²⁻⁶ However, anaphylactoid reactions, with even death, have been recorded with such reinfusions and the procedure is not recommended.

Although one might have some reluctance to operate in cases of spontaneous chylothorax, particularly in cases caused by malignant disease, operation is often worth while as a palliative measure to stop the constant reaccumulation of chyle in the chest. The following cases illustrate various problems encountered in dealing with chylothorax.

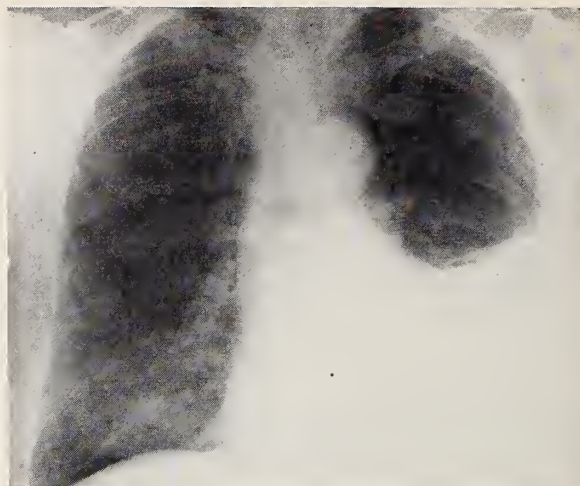


Figure 1 (Case 1).—X-ray film showing left pleural effusion before thoracentesis.

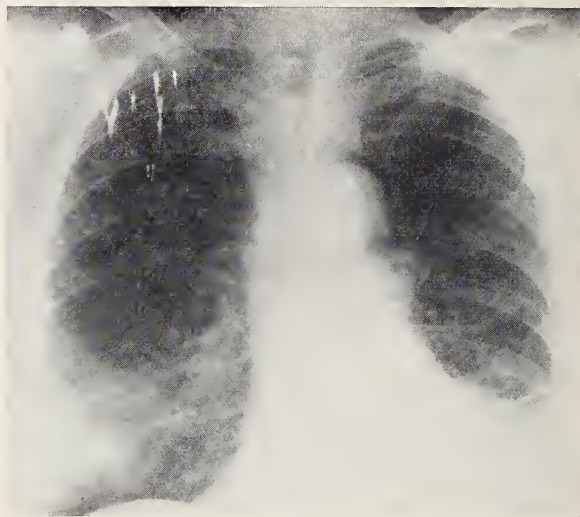


Figure 2 (Case 1).—X-ray film of chest following ligation of thoracic duct showing continued presence of a moderate amount of chyle.

CASE 1. A 70-year-old man had undergone treatment for carcinoma of the prostate six years previously. A month before admittance to hospital, dyspnea, general edema, and left pleural effusion (Figure 1) were noted. Multiple thoracentesis produced 9,700 cc. of chylous fluid. Milk and cream were given by mouth, and a few hours later right thoracotomy was performed. The thoracic duct was divided and ligated. No accessory ducts were seen, but ductography was not done. The chest was dry for two weeks but then chylothorax recurred (Figure 2), and intercostal tube drainage was done. This diminished the amount of fluid and the patient was able to go home with the tube in place. His condition gradually deteriorated and he died of widespread malignant disease a month later.

Comment: Although no postmortem examination was obtained, the chylothorax in this patient, without much doubt, was secondary to invasion by neo-

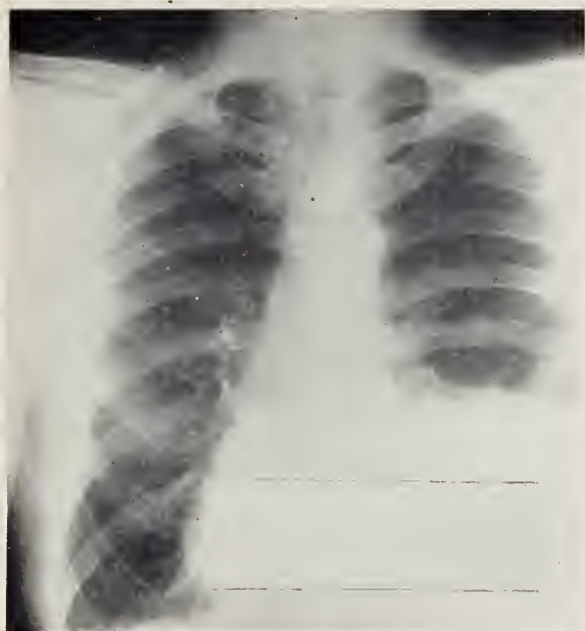


Figure 3 (Case 2).—Preoperative film of chest showing left chylothorax.

plasm. In light of present experience, the patient now would be managed somewhat differently. Following the failure of repeated thoracentesis to control the reaccumulation of chyle, tube drainage with suction would be given a trial before resort to thoracotomy with ligation of the duct. If tube drainage were unsuccessful, we would now accompany thoracotomy with an operative table ductogram in an attempt to identify any accessory thoracic ducts, which occur often enough to account for the failure of this procedure in this patient.

CASE 2. The patient, a 61-year-old man, was well until, a month before admission, he noted left lower chest pain associated with dyspnea. A diagnosis of pneumonia was made and the patient was treated accordingly. Later he was admitted to the hospital, again complaining of left chest pain. An x-ray film showed left pleural effusion. Fluid was aspirated from the area and was found to be chyle (Figure 3). A diagnosis of chylothorax secondary to probably malignant invasion of the thoracic duct was made. It was elected to attempt to ligate the thoracic duct through the left chest to control the chylothorax. A periaortic mediastinal mass of tumor was encountered and the thoracic duct could not be identified. At biopsy the tumor was identified as lymphocytic lymphosarcoma. Following operation, the patient was treated with a full course of 3,000 roentgens to the mediastinum. A film of the chest three months later showed no reaccumulation of the chylous effusion (Figure 4). At last report the patient was asymptomatic and was planning to return to work.

Comment: In this case tube drainage with suction probably should have preceded the attempted ligation of the duct. Some workers in this field have



Figure 4 (Case 2).—Follow-up film of chest showing no reaccumulation of chylothorax.

recommended a trial of radiation to the mediastinum in cases of spontaneous chylothorax if conservative measures of aspiration or drainage fail. Had this course been followed in this patient, the chylothorax would presumably have been controlled but the actual diagnosis never made. If there is a place for radiotherapy in the treatment of chylothorax without a tissue diagnosis it would perhaps be in a patient in whom a proven site of primary malignant disease had been identified previously elsewhere in the body, as in Case 1.

CASE 3. A three-year-old white boy entered the hospital for division of a patent ductus arteriosus. Left thoracotomy was done, the ductus divided and the ends oversewn. The postoperative course was uneventful for five days. Then he was noted to have fluid in the left chest. A total of 4,455 cc. of milky fluid was withdrawn by thoracentesis in almost daily taps during the next 18 days (Figure 5). Because of failure of repeated thoracentesis to control the reaccumulation of chyle, closed catheter drainage, with suction, was instituted and a total of 75 cc. was drained in the next 24 hours. The tube was removed two days later. There was no evidence of accumulation of pleural fluid thereafter (Figure 6).

Comment: This case is fairly typical of the cases of chylothorax which occur after surgical operation on the great vessels. Although no difficulty was encountered in dividing the ductus, presumably the main duct or one of its larger tributaries was damaged at that time. The incidence of chylothorax following cardiovascular operations has been estimated at 0.5 per cent.⁷ The latent period from time of injury to appearance of the pleural effusion averages from four to eight days, but may be much longer.^{2,7} The delay is probably due to the fact that the chyle

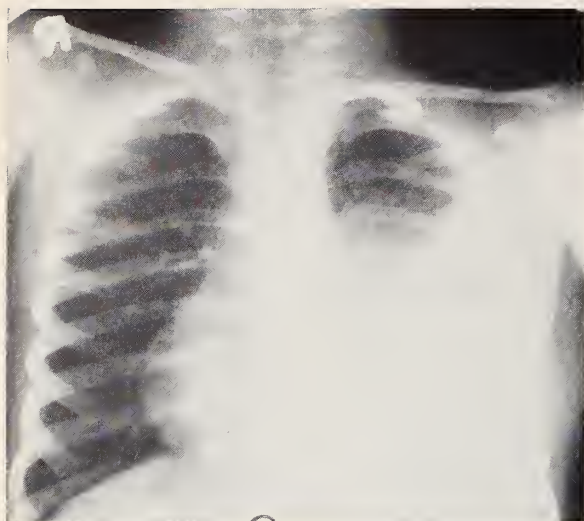


Figure 5 (Case 3).—Postoperative x-ray film of chest showing persistent left chylothorax despite repeated thoracenteses.

leaks first into the mediastinum and only later breaks through the pleura into the chest. Although a lipophilic dye was not given by mouth in this case, it could have been done if there had been any question about the diagnosis. Following failure of multiple thoracentesis to control the reaccumulation of chyle, consideration was given to proceeding directly with ligation of the duct. However, in line with our present policy of first trying suction drainage before operative attack, a conservative course was followed which resulted in a rapid cure of the chylothorax.

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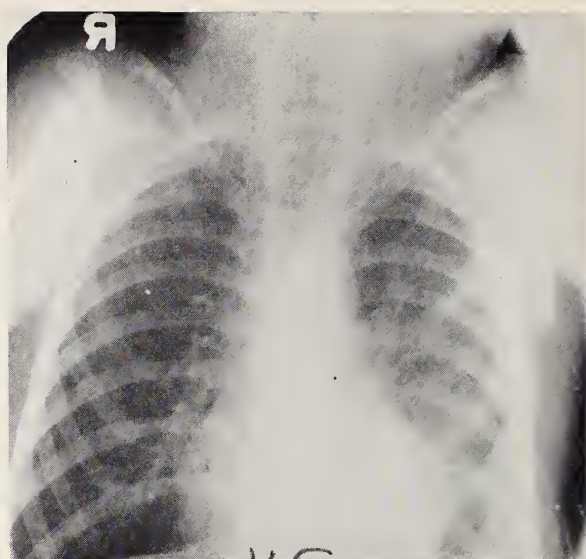


Figure 6 (Case 3).—Disappearance of chylothorax one week after closed catheter drainage.



Bilateral Aneurysms of the Internal Carotid Artery

Successful Surgical Approach in One Stage

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BECAUSE OF THE grave prospect of recurrence, the prognosis is poor in cases in which intracranial aneurysms of the supraclinoid portion of the internal carotid arteries are present after subarachnoid hemorrhage. Ask-Upmark and Ingvar² in a review of more than 500 cases of subarachnoid hemorrhage noted that the mortality rate was 60 per cent, 20 per cent of patients were disabled and 20 per cent recovered. Of 191 patients with subarachnoid hemorrhage reported upon by Hyland,⁸ 100 died within six months after the first attack, 70 within two weeks. According to Cloake,⁵ the high proportion of early recurrence of bleeding was stressed by Falconer and is of great importance in assessing indications for operation.

Prompt treatment of residual aneurysms can greatly reduce the hazard. Seventy-three cases of surgically treated aneurysms were surveyed by Bassett and co-workers,³ who reported that the mortality rate associated with ligation of the cervical carotid artery was low (3.4 per cent) and that with that operation there was a high incidence of functional recovery from transient postoperative hemiplegia. With intracranial ligation, the mortality rate was 40 per cent.

When intracranial aneurysms occur bilaterally, the surgeon faces a baffling problem. Ideally both lesions should be repaired without disturbing the cerebral circulation. Only recently Seltzer and Hurteau¹⁰ reported a case of bilateral aneurysms in a 47-year-old white woman. Both lesions originated from the carotid arteries within the cavernous sinus. The lesions were symmetric but only the left one caused symptoms. The patient had hypertension. She had had a left-sided headache of three weeks' duration, followed, 18 days later, by medial deviation of the left eye. At operation, the left carotid artery was surgically occluded proximally and distally from the aneurysm. The aneurysm on the right was let alone.

Bilateral aneurysms may occur more frequently than is generally believed. Dandy⁶ reported that in eight of thirty-nine patients with internal carotid aneurysms, the lesions were of bilateral occurrence.

• When intracranial aneurysm is suspected, carotid arteriogram should be done not only on the suspected side but always on both sides. Without surgical intervention the prognosis of bilateral aneurysms is notoriously poor.

With the aid of hypothermic anesthesia it is now possible to operate on both sides in a single procedure. This was demonstrated in a case in which both carotid arteries were simultaneously occluded twice during the surgical repair of bilateral carotid aneurysms. Occlusion was done once for eight minutes and once for ten minutes, without clinical evidence of brain damage.

In fatal cases, he noted, the duration of symptoms was usually very short—less than five weeks in all except one case in which symptoms were present for seven months.

In contrast, Alpers and co-workers¹ observed only one bilateral case among 75 verified cases of aneurysms of the internal carotid artery. That was the case of a woman 45 years of age with hypertension and premenstrual headaches, ophthalmoplegia on the left side and paralysis of the external rectus muscle on the right side. A bruit was heard over the entire head. On arteriographic examination, a carotid arteriocavernous sinus fistula was seen on the right side and a saccular aneurysm on the left. The patient was discharged without operation. Five weeks later the left eye paralysis was still present and that in the right eye was somewhat diminished. The bruit was audible as before.

The authors said that the clinical features of bilateral aneurysms of the internal carotid artery vary from case to case.

Among 73 cases of multiple aneurysms reported by Bassett and co-workers³ there was only one in which there were bilateral lesions. In that case, cervical ligation was done successfully on one side, but, 46 months later, when the contralateral aneurysm was discovered, rupture of the aneurysm occurred when a surgical clip was placed at the neck of the lesion, and carotid ligation had to be done. The patient, dependent on vertebral arterial blood supply alone, died.

Cloake⁵ studied 120 cases of aneurysms in 114 patients observed at the Neurosurgical Clinic in

Stockholm from 1932 to 1951. All the aneurysms were located within the cranium. In 30 of the cases there were supraclinoid lesions. Bilateral occurrence was not mentioned at all.

One of the first cases reported appears to be one described by Friedrich⁷ in 1934. A 58-year-old

woman had had partial thyroidectomy for toxic goiter at age 40 and at age 51 had had radial resection of the right maxilla with removal of the right eye because of a malignant tumor. At 53 years of age she complained of headache and dizziness. Five years later a tumor of the pituitary gland was



Figure 1.—Lateral and anterior-posterior arteriograms before operation. Arrows point to the right and the left aneurysm. The two upper films were taken with the left side injected, the two lower films after injection on the right side.

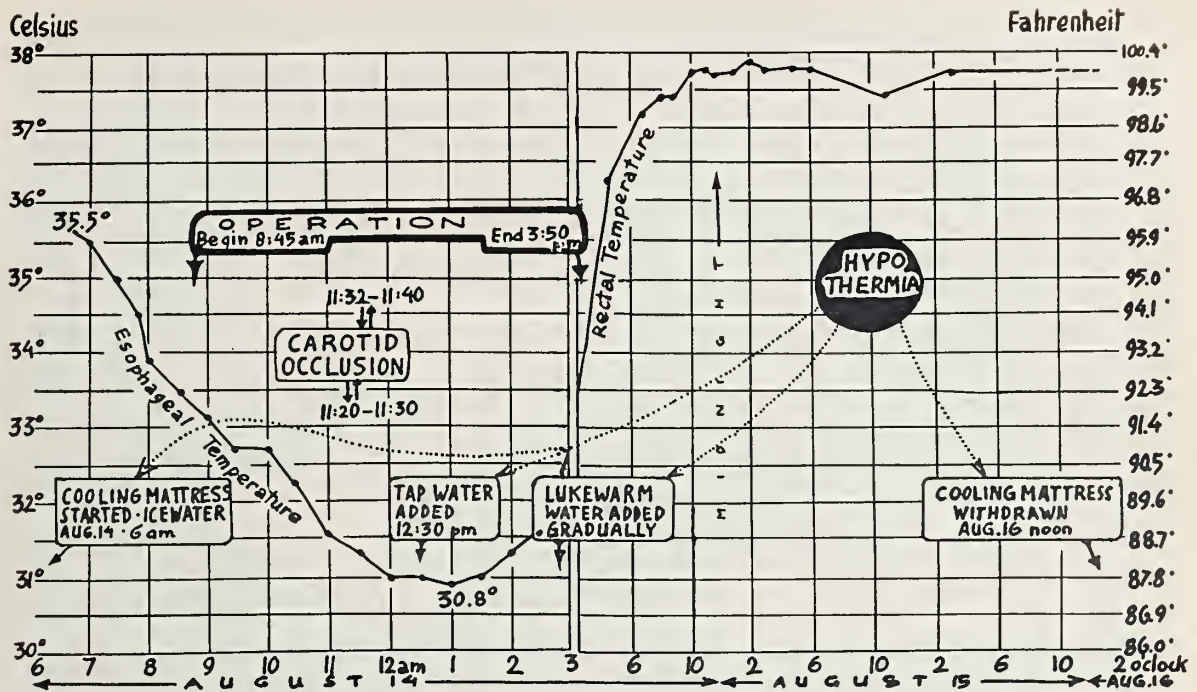


Chart 1.—Timetable shows the effect of hypothermia on the body temperature. Esophageal temperatures were registered by a Yellow Springs Thermister thermometer. Note the timing of simultaneous bilateral carotid occlusions.

suspected when she had severe headaches and diminished vision. Operation was done but the patient died soon afterward of uncontrollable hemorrhage. There was an aneurysm 5 cm. in diameter in the right side of the cranium and another smaller aneurysm on the left. Both originated from the internal carotid arteries. Friedrich considered them to be of traumatic origin.

In a case reported by Bozzoli⁴ in 1937, a man 58 years of age had aneurysms of both internal carotid arteries. The patient died of bronchopneumonia before surgical treatment could be carried out.

Minton⁹ reported the case of a 60-year-old woman with complaint of sudden dizziness followed by severe headaches, vomiting and loss of consciousness. Arteriograms demonstrated two aneurysms on the right side, one at the cavernous sinus and a larger one, surrounded by a hematoma, at the origin of the posterior communicating artery. On the left side was a large fusiform aneurysm of the carotid syphon. Surgical treatment was contraindicated. The patient did rather well on bedrest and sedation, but three weeks later, she died of a sudden second hemorrhage. At autopsy evidence was found that the first symptoms had been caused by rupture of an aneurysm of the right internal carotid artery and that the later fatal bleeding had come from rupture of an aneurysm of the left internal carotid artery.

The surgical attempt to approach both sides in

one stage has been considered almost forbiddingly hazardous because it may necessitate the simultaneous occlusion of both carotid arteries in the neck. In the following case, this procedure, done with the help of hypothermia was remarkably well tolerated, and the patient recovered without significant post-operative signs of even transient cerebral damage.

REPORT OF A CASE

A 43-year-old negro housewife, admitted to hospital on August 4, 1957, had been in apparent good health until August 3, when she lost consciousness while washing her car on a hot day. When she awoke she was lying on her back on the sidewalk and had a severe headache. Taken by ambulance to an emergency hospital, she was examined and then permitted to go home. Severe occipital headache continued. The next morning nausea and vomiting developed and the patient was sent to a hospital.

The patient was obese. She was alert and cooperative. The blood pressure was 170/90 mm. of mercury. Nuchal rigidity was noted. The Kernig sign was present bilaterally. Tenderness was noted in the right occipitotemporal area. The grip was weaker in the right hand than the left. There was hypesthesia to touch and pinprick over the right upper face and side of the head. The cerebrospinal fluid pressure was found to be 350 mm. of water and the fluid was bloody.

Headaches and vomiting continued. On August 8,



Figure 2.—Lateral and anterior-posterior arteriograms after operation. The upper films were taken with the left side injected, the lower films with the right.

carotid angiograms showed two aneurysms extending medially from the supraclinoid portion of each carotid artery (Figure 1). Numbness of the right side of the face and of the right forearm and hand was noted.

On August 14 general hypothermic anesthesia was started with the aid of a cooling mattress. When the body temperature, measured with an esophageal thermometer, was below 34°C ., operation was begun. A bifrontal bone flap was elevated and the anterior sagittal sinus and falx cerebri were sectioned. The aneurysms were approached by elevating the

right frontal lobe while cerebrospinal fluid was withdrawn from the lumbar region. Both aneurysms were identified. They were touching each other. During the attempt to dissect the right aneurysm from its bed, the left aneurysm ruptured at its fundus. Carotid arteries were occluded in the cervical region (see timetable, Chart 1) and bleeding was greatly reduced. While the left aneurysm was being dissected free, both carotid arteries were occluded simultaneously for ten minutes. After this, the arteries were released for two minutes and then occluded again for eight minutes. During this

time the left aneurysm was occluded to an area flush with the left carotid artery by means of four broad silver clips. Following this, the right aneurysm was dissected free and a 2-0 silk ligature tied about its base. The aneurysm decreased in size immediately. The esophageal body temperature reached 31.0° C.

The postoperative course was quite uneventful. For two days the patient remained on the cooling mattress which was kept at a temperature of 34° C. The maximum body temperature was 38.9° C. rectally.

The patient was awake, alert, and able to talk in the immediate postoperative period. For several days she complained of headache. With the exception of leukocytosis—leukocytes numbered 23,000 per cu. mm.—results of laboratory examinations were within normal limits during the postoperative period. On August 23, nine days after the operation, bilateral carotid angiograms showed a normal vascular pattern (Figure 2).

On August 30, the patient was ambulatory and felt well. Except for anosmia there were no neurological abnormalities. The patient resumed her normal activities and remained remarkably well with the exception of minor complaints of headache and tenderness at the site of the cervical incision. In December the patient had a mild head injury when struck by a falling can of food. She was not unconscious but complained of tenderness and headache. By February, 1958, she was again feeling well and at last observation was performing her normal activities.

COMMENT

The importance of visualization of both carotid artery systems in a patient with suspected intracranial aneurysms is apparent from the review of the incidence of bilateral aneurysms. Even in clinically unilateral cases, it is advisable to do arteriography on both sides. The history and findings alone are usually not reliable in determining the presence or absence of an aneurysm on the other side.

The rather poor prognosis in patients with bilateral aneurysms reported in the literature should

be noted. It justifies early attempts at ligation. The problems of direct surgical attack to the bilateral intracranial aneurysms are, of course, similar to those encountered in the case of solitary aneurysm. The use of hypothermic anesthesia was perhaps of decisive import in the present case. It appears to have helped in the control of cerebral edema at the time of operation. Above all, it enabled us to consider seriously simultaneous bilateral approach. Reducing the oxygen demand in the brain, it allowed a longer safe period of carotid occlusion. We believe that the continuation of the use of the cooling mattress into the postoperative period helped control the usual postoperative hyperthermia and reduce postoperative cerebral edema.

ACKNOWLEDGMENT: Postoperative cooling was suggested by Drs. Norman Barnstein and Marshall Skaggs of Sacramento, who put their hypothermic equipment at our disposal.

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Use and Abuse of Nasogastric Intubation

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THE INTRODUCTION of intubation as a means of gastrointestinal decompression by Ward, Wangenstein and Paine will undoubtedly be regarded as one of the more important medical advances of this century. Nasogastric and intestinal tubes are of great value in the treatment of some cases of mechanical intestinal obstruction and paralytic ileus and in the preparation of patients with obstruction for operation. However it is wondered if intubation is not used too frequently in the "prevention" of abdominal distention.

It sometimes is not fully appreciated that nasogastric intubation can result in serious complications—some of which can be fatal. In fact the procedure is regarded so lightly by some physicians that the indication for use of the tube is simply an abdominal operation. This is indeed unfortunate.

Various complications of gastrointestinal intubation have been reported:

1. Fluid and Electrolyte Loss

This is perhaps the most frequent sequela of gastrointestinal decompression. It is regarded as a complication if the quantity and/or quality of fluid and electrolyte loss is not fully recognized. This loss becomes very pronounced when a patient on continuous suction is allowed fluids by mouth indiscriminantly. The same is true when the tube is frequently irrigated by the patient's attendants. Even with the aid of serum electrolyte and blood volume determinations, accurate replacement therapy is a genuine challenge. Prevention of these losses is usually easier than correcting them.

2. Discomfort to the Patient

How often have physicians listened to the patient's plea, "How long does this tube have to stay in?" Many times it appears that the tube causes more discomfort than the abdominal incision. This discomfort plus the other complications to be discussed, prompted Farris and Smith⁵ to evaluate temporary gastrostomy as a substitute for nasogastric intubation. At last report they had performed this procedure in over 150 cases with impressive results. Although temporary gastrostomy has not yet received unanimous endorsement, it appears to be a worthwhile method of preventing distention in certain situations.

• The value of nasogastric intubation in the treatment of paralytic ileus and in some cases of mechanical obstruction, as well as in the preparation of obstructed patients for operation, cannot be denied. However, it is felt that intubation is oftentimes employed unnecessarily, and that the complications of this procedure are not fully appreciated. Fluid and electrolyte loss, sinusitis, parotitis, laryngeal obstruction, esophagitis, knotting and difficulty in withdrawing tubes and perforations of the gastrointestinal tract are complications that can occur when nasogastric intubation is employed.

Two hundred consecutive operations on the gallbladder and bile ducts were reviewed, and the need for intubation in these cases was evaluated. It was needed in only 7.5 per cent of the cases in the series. In light of the hazards and the rather rare necessity for nasogastric intubation, "routine" use should be eschewed.

3. Sinusitis, Otitis Media and Parotitis

Edema of the mucous membranes of the nasopharynx from the trauma of the foreign body (the tube) interferes with drainage from the sinuses and the middle ear. This can result in very annoying sinusitis or otitis media. The latter is more common in children.

Parotitis is likely to occur in the presence of poor oral hygiene and dehydration. To stimulate the flow of saliva it has been suggested that intubated patients suck on hard candy or chew gum. These measures might help to reduce the incidence of complicating parotitis.

4. Laryngeal Obstruction

Chaffee³ mentioned 19 cases of laryngeal obstruction due to nasogastric intubation. In 15 of the patients tracheotomy was necessary, and four died. Farris and Smith⁵ sent questionnaires to 200 members of the American Laryngological Society and the American Bronchoesophagological Society. They received reports of 79 patients who needed tracheotomy after intubation with nasogastric or intestinal tubes.

The primary pathologic change in this complication begins as a pressure necrosis of the esophagus at or near the attachment of the esophagus to the cricoid cartilage. This produces a perichondritis and ulceration of the larynx with subglottic stenosis.

Dyspnea, dysphagia, hoarseness, crampy cough and hemoptysis usually accompany this condition,

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sometimes not occurring until several days after removal of the tube. Intubation does not have to be long continued for this complication to develop. Laryngeal obstruction has been reported in a patient who was intubated for only four days.

5. Esophageal Complications

Vinson⁶ reported three cases of esophageal stricture necessitating dilatations. In the survey by Farris and Smith⁵ reports of 22 patients who required esophageal dilatations were obtained.

A case of fatal hemorrhage from esophageal varices has also been reported. It was postulated that contact by the Miller-Abbott tube eroded the distended veins. It would seem, that except for the Blakemore-Sengstaken tube to control hemorrhage, intubation would be contraindicated in patients with esophageal varices.

6. Knotting of the Tube

Rehfuß tubes are especially prone to knotting. Not only do they have a weighted olive at the tip, but they are usually used as a diagnostic tool in patients with normal gastric motility. Most knotted tubes are successfully removed through the nares—the knot having been pulled tight during the forceful withdrawal of the tube, but sometimes a knotted tube will have to be amputated at the nose, the remainder of the tube being permitted to pass per rectum, especially if the knot is beyond the pylorus or the ileocecal valve.

7. Difficulty or Inability to Withdraw the Tube

The tubes that are difficult to remove are usually those with a balloon at or near the tip. These bags act as a semi-permeable membrane, and gases will pass through from higher pressure areas to lower pressure areas. Hence the balloon can become considerably distended and obstruct the intestine. Surgical intervention is occasionally necessary to remove inflated bags. Allen and Welch¹ recommended the insertion of a needle through the intestinal wall at laparotomy to aspirate gas from the distended bag. The small needle-hole can then easily be closed.

After analyzing the gases in these distended balloons, Cantor² suggested that they be made of neoprene-G, as this material is not as permeable to carbon dioxide. Distention of the balloon on a Cantor tube can be prevented by inserting the stylet of a No. 21 gauge needle between the bag and the tubing before tying on the bag. After the tying, the stylet is removed. A ligature tied in this manner will permit gas to escape but not metallic mercury.

8. Breakage of the Balloon

Occasionally the balloon on intestinal tubes will rupture. This usually occurs during attempts at



Figure 1.—Picture shows size of balloon on Miller-Abbott tube when inflated with 720 cc. of water.

forcible withdrawal. Metallic mercury in the intestinal tract generally causes no ill effects. However, particles of this material can lodge in diverticula or within mucosal folds and bring about abscesses or fistulae. Drouillard and co-workers⁴ reported a case in which the patient bit the balloon during removal. The mercury was aspirated into the patient's lungs. No untoward reaction ensued from this unusual accident, although at last report there was still mercury in the lung fields on x-ray examination.

9. Perforation of the Stomach or Intestine

Perforations of the esophagus, stomach and small bowel have all been reported. This catastrophe can occur through an apparently normal viscus as well as through a diseased organ. In one instance the tip of a tube perforated a gastric carcinoma. This complication can largely be prevented by changing the position of the tip of the tube each day by withdrawing or advancing it a few inches.

In the past few months I have seen two complications from intestinal tubes. The first was in a patient in whom paralytic ileus had developed following a resection of the sigmoid colon. In an effort to relieve the ileus a Miller-Abbott tube was passed. Two cubic centimeters of mercury was introduced into the balloon. After 48 hours the bag had not entered the duodenum, although an x-ray study showed that the tip was pointing directly at the pylorus. An attempt was then made to withdraw the tube, but it could not be delivered. Syringe suctioning on the "Pilling"* opening yielded 720 cc.

*These limbs on some tubes are marked "Bitner" or "Melcher."

of water. The tube was then easily removed. The patient's nurses admitted irrigating the tube rather freely. (The size of the balloon when inflated with 720 cc. of water is shown in Figure 1.)

To prevent the instillation of irrigating fluids through the wrong opening, I now generously tape the limb marked "Pilling" and write specific orders not to remove the tape.

The second complication occurred in a patient who had undergone an exploratory laparotomy for upper gastrointestinal hemorrhage. An enterotomy in the jejunum had been done as a part of that exploration. After operation a partial intestinal obstruction developed and a Kaslow tube was passed. The obstruction became complete, and it was felt necessary to reoperate. Because the Kaslow tube had been in the upper small bowel for six days, and because it was realized that the balloons on these tubes can absorb gas, it was deemed advisable to remove the tube and insert a new one before operation. Moderate difficulty was experienced in removing the tube. When the distended bag entered the pharynx and protruded from the mouth, it was obvious why more traction than usual was necessary, for the balloon had absorbed gas and was fully distended. When the balloon extruded from the patient's mouth, the bag was amputated and the rest of the tube was withdrawn through the nose.

In an effort to determine whether nasogastric suction is being employed too frequently as a prophylactic measure, 200 consecutive operations upon the gallbladder and bile ducts were analyzed. The author and his associates do not use nasogastric suction routinely in such cases. It was found that intubation was employed in 15 of the 200 cases reviewed. In seven instances it was used prophylac-

tically for patients in whom severe ileus was expected. In the other eight the tube was indicated for gastric dilatation, vomiting or unrelenting hiccoughs. Serious difficulty did not develop in any of this group because the gastric tube had not been passed either preoperatively or in the immediate postoperative period. In only one patient was the tube used more than 24 hours. The remaining 185 patients recovered uneventfully from their operative procedures without need of intubation. As a matter of fact if patients are denied all fluids by mouth after operation until active peristalsis is regained, they will swallow little or no air, and distention will not be a problem. Postoperative ileus can often be handled in this manner.

It is realized that nasogastric intubation is a very useful tool in certain situations. However the complications that can result from the use of gastric or intestinal tubes should be kept in mind so that the tubes can be employed intelligently and cautiously. It is felt that prophylactic intubation is used too frequently.

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CASE REPORTS

Acute Appendicitis with Perforation by An Ingested Nail

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PERFORATION OF THE APPENDIX by an ingested nail is uncommon. Collins¹ reported that foreign bodies were found in the lumen in 40 per cent of 50,000 appendical specimens examined. Thirty-nine per cent of the foreign bodies were fecoliths, 0.1 per cent were common metal pins, 0.05 per cent needles and 0.08 per cent nails. Of 45,335 surgically removed specimens, 10.8 per cent were described as being either gangrenous or perforated. Sawyer³ reported a small series of cases of acute appendicitis with perforation due to sharp foreign bodies. It is of historical interest that the first recorded appendectomy was done by Claudius Amyand on December 6, 1735, on an 11-year-old boy who had a scrotal hernia with a fistula formation that contained a chronic suppurative perforated appendix. The perforation was caused by a pin in the appendix.²

REPORT OF A CASE

A 9-year-old white boy was admitted to the hospital with complaint of abdominal pain and anorexia. Approximately ten hours before, pain had developed in the lower right quadrant of the abdomen and was associated with anorexia. The pain was persistent, localized and did not radiate. Nausea developed and anorexia became more pronounced.

On examination the temperature was 99.2° F., the pulse rate 116 per minute and respirations 22 per minute. The abdomen was tender to palpation in the right lower quadrant and some rebound tenderness and definite muscle guarding were noted. Results of urinalysis were within normal limits. Leukocytes numbered 10,000 per cu. mm., made up of 62 per cent segmented neutrophils and 38 per cent lymphocytes.

A McBurney incision was made in the abdomen and a mass was observed in the region of the cecum. The appendix was freed by blunt dissection from the mass, which was inflammatory. The appendix was 4.5 cm. long and 2.0 cm. in diameter at the distal half. It was covered with pus and fibrin and the capillaries were engorged. The point of a nail projected 1 cm. through one wall of the distal half.

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A routine appendectomy was done and the abdominal incision was closed without drainage. The patient was discharged from the hospital on the fourth postoperative day.

The patient could not remember having swallowed a nail, but questioning elicited that he sometimes held nails in his mouth, imitating his father, who was a carpenter.

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Complicated Regional Enteritis

The Need for Complete Exclusion of the Involved Segment

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REGIONAL ILEITIS was defined and its pathological and clinical details elaborated upon by Crohn, Ginsburg and Oppenheimer¹ in 1932. The entity had been observed previously, but was grouped with others under the general term *benign granuloma*. The classic description of the symptoms, cause and complications has not had to be amended. However, the pathological concept of the disease and etiologic delineations have been subjects of considerable speculation. The factors considered have included generalized as well as specific bacterial infections, allergic reaction, lymphatic dysfunction and psychosomatic causes. However, none of these conjectures has been completely substantiated by clinical investigation.

Treatment with drugs, although supportive, is not specific. Spontaneous regression of the disease with healing may occur, but recurrences are common.

Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

From Letterman Army Hospital, San Francisco.

Surgical intervention is indicated for patients who do not have good response to conservative therapy and for those in whom complications develop, such as fecal fistulae, abscesses or bowel obstruction. The applicable surgical procedures involve either resection of the diseased bowel or a by-pass operation. Factors in choosing between resection and shunting operations have been well discussed by a number of investigators,^{2,3,4,5} but it should be emphasized that when a shunting operation is selected, it should accomplish complete exclusion of the diseased segment rather than the partial exclusion which results from sidetracking in continuity. Pertinent to this emphasis are the two cases here reported. Both patients were deteriorating steadily following ileotransverse colostomy in continuity, then recovered dramatically after complete exclusion of the diseased area was brought about by the simple interruption of the distal loop of the ileum.

CASE 1. The patient, a 31-year-old white woman, was admitted to Letterman Army Hospital July 3, 1951 with chronic draining fecal fistulae in the right lower quadrant of the abdominal wall. A diagnosis of regional enteritis had been made in 1949. In July 1950, during laparotomy at another hospital because of appendicitis, a large right lower quadrant inflammatory mass was observed and drained. This was followed by the development of a chronic fecal fistula. In May 1951 at still another hospital an ileotransverse colostomy in continuity was performed. Three more fecal fistulae developed in the operative wound. At the time of admission to Letterman Army Hospital in July 1951 the patient was thin, febrile and emaciated. The weight was 85 pounds. There were four fecal fistulae in the operative scar of the abdominal wall.

Fibroids of the uterus had been diagnosed in 1950. One pregnancy, in 1947, was uncomplicated.

Hemoglobin content of the blood was 14.4 gm. per 100 cc. Leukocytes numbered 7,000 per cu. mm. The protein content was 5.9 gm., albumin 2.6 gm., globulin 3.3 gm., and creatinine 1.6 mg. per 100 cc., the nonprotein nitrogen content 22 mg. per 100 cc. of serum, chlorides 100 mEq. per liter, sodium 140 mEq.; carbon dioxide 23.9 mEq., and potassium 40 mEq. Results of urinalysis were within normal limits. X-ray studies with barium enema showed a probable fistula at the site of ileotransverse colostomy and the cecum.

At laparotomy the inflammatory disease was seen to be confined to the ileocecal area. The lumen of the ileotransverse colostomy was adequate. The ileum was transected distal to the anastomosis and both cut ends were closed and replaced in the abdomen. The postoperative course was one of rapidly progressive improvement. In 48 hours the patient had a normal bowel movement. From the time of operation on, there was no fecal drainage. The operative wound and fistulae healed. At the time of discharge from the hospital a month after operation, the patient weighed 100 pounds.

On August 11, 1954, a panhysterectomy and oophorectomy was performed for the uterine fibroids. At that time the patient had no symptoms referable to the gastrointestinal tract and her weight was 135 pounds. At laparotomy all abdominal scars were observed to be well healed. The small bowel was found to be normal. There was no sign of inflammatory activity in the previously excluded segment of distal ileum.

CASE 2. A 20-year-old white soldier was admitted to Letterman Army Hospital on November 7, 1956 as a transfer from a hospital in an overseas theater because of a chronically draining fecal fistula of the right lower quadrant of the abdomen. He had been in excellent health until August 1956, when he had sudden onset of cramping lower abdominal pain, diarrhea, anorexia, nausea and vomiting. These symptoms progressed during a four-week period of conservative medical management. When a mass developed in the right lower quadrant, exploratory laparotomy was done on September 5, 1956. The mass was found to be composed of matted terminal ileum and cecum. This area was drained through a right lower quadrant stab wound. In addition, a side-to-side ileotransverse colostomy was made, using a loop of ileum about 15 inches proximal to the mass. For three weeks postoperatively purulent material drained from the operative field. Then the patient became febrile and on October 1, 1956 fecal material began draining. Loss of weight progressed, the total decrease amounting to 60 pounds, and the patient became so weak that he could not sit up in bed.

On admission to Letterman Army Hospital the patient was emaciated and chronically ill. In the abdomen a poorly defined mass 6x6 cm. was palpated in the right lower quadrant, and near it a fecal fistula draining liquid fecal material. The hemoglobin content was 13.2 gm. per 100 cc. Leukocytes numbered 10,950 per cu. mm. The hematocrit was 42 per cent and the sedimentation rate 44 mm. in one hour. Total protein was 4.8 gm. per 100 cc., albumin 1.5 gm. and globulin 3.3 gm. Carbon dioxide was 25.3 mEq. per liter, sodium 135 mEq., potassium 3.9 mEq. and chlorides 105 mEq. X-ray studies with barium enema showed a functioning ileotransverse colostomy and a fecal fistula from the ileum distal to the anastomosis.

At laparotomy on November 20, 1956 the inflammatory disease was found to be confined to the ileocecal area. The lumen of the ileotransverse colostomy was adequate. The ileum was transected just distal to the anastomosis. The proximal stump was closed and the distal stump brought out through a separate incision as a mucous fistula. The patient improved rapidly after operation, with primary healing of the laparotomy wound and immediate cessation of the fecal drainage. He became afebrile and had a ravenous appetite and gained a pound a day in body weight. Bowel movements were normal thereafter.

Each of these cases posed the problem of what to do with a right lower quadrant mass due to acute regional enteritis that had been confused with appendicitis preoperatively. In Case 1 drainage of the right lower quadrant alone was attempted at the first operation, which was followed by formation of a fecal fistula. The enteritis and its complication of a fecal fistula were treated by ileotransverse colostomy in continuity. The same incomplete shunting procedure was used in Case 2. That this procedure was inadequate is borne out by the fact that the fecal fistula continued and the condition of each patient deteriorated to the point that life was endangered. The prompt and decidedly favorable response to simple but complete division of the distal loop of ileum emphasizes the importance of complete exclusion when a diversion type of surgical procedure is elected.

Two cases are presented of regional enteritis complicated by fecal fistula. In each case early treatment consisted of a side-to-side ileotransverse colostomy in continuity.

The need for complete exclusion in cases of complicated regional enteritis is emphasized and a simple method to correct the complications which may follow a partial exclusion is described.

Harding Way Medical Dental Group, 645 West Harding Way, Stockton (Arismendi).

1. Crohn, B. B., Ginsburg, L., and Oppenheimer, G. D.: J.A.M.A., 99:1323, Oct. 15, 1932.

2. Carlock, J. H., Crohn, B. B., Klein, S. H., and Yarnis, H.: Gastroenterology, 19:414, Nov. 1951.

3. Kiefer, E. D.: Surgical Clinics of North America, p. 801, June 1955.

4. Nadal, J. W.: West. J. of Surg., Obst. & Gynec., 62:417, Aug. 1954.

5. Rossmiller, H. R., and Crile, G., Jr.: Surgical Clinics of North America, p. 1139, Oct. 1948.

Chicago Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposia in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 1, 1959.

California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Opposition to the Forand Bill

ALTHOUGH INDICATIONS are that the Forand Bill (HR 4700) will not be reported out of committee and acted upon by the Congress at the present session, this certainly cannot be taken to mean that opposition to the measure can be relaxed. It can mean only that testimony before the House Ways and Means Committee which is holding hearings on the bill has given the committee enough food for thought to make precipitous action unlikely, which gives the medical profession a little more time to show that the proposed legislation is unwise and that better solutions can be found to the problem of medical care for the aging.

Representative Forand, a Rhode Island Democrat, introduced the bill some months ago. As an amendment to the Social Security laws it would provide hospitalization or nursing home coverage plus surgical benefits, when needed by recipients of Social Security payments—mostly persons over 65 years of age.

Medical organizations and other interested groups, although recognizing that the problem of medical care for the aging is one that certainly they must help solve, decry a welfare state approach to the solution. The question to be answered is how our older citizens are to get hospital and medical services at a time in their lives when in general their need for such services is increased and their ability to pay for them is decreased.

Some legislators, imbued with the spirit of big government paid for out of taxes on ordinary citizens, propose that government expand its activities still further and provide the hospital and surgical care that our older citizens may need. On the other hand, most physicians and others who hope to preserve not only the best atmosphere for the effective practice of medicine but also each citizen's sovereignty over self, insist that the system of free com-

petitive enterprise be given a chance to meet the challenge of care for the aging before government can consider moving in.

In the current hearings by the Ways and Means Committee, medicine fortuitously had on its side the Department of Health, Education, and Welfare, whose opinions must carry weight with the committee. One of the first witnesses appearing before the committee was the Hon. Arthur S. Flemming, Secretary of the department and an outspoken proponent of the protection of the rights of the individual in our country.

Mr. Flemming was reported in the press as having opposed the passage of HR 4700 on the basis that the proposed bill would "freeze the pattern of health coverage of the aged into a vast and uniform governmental system" which would *undermine* the now burgeoning private system of health coverage. He also took issue with the arithmetic of Mr. Forand and his associates, pointing out that the cost of the Forand program would be some 50 per cent above the cost estimated by the authors.

On the day following Mr. Flemming's appearance, Doctor T. Eric Reynolds, president of the California Medical Association, testified before the same committee.

Doctor Reynolds cited the experience in California where earnest effort already is being made through voluntary plans to find a way by which most persons over age 65 can themselves pay for the medical care they need and where a sound county hospital system has, for many years, provided good medical and hospital care for all eligible citizens.

Doctor Reynolds also touched on some of the other factors affecting our older citizens. He spoke, as a physician, of the need of retaining in our older citizens a sense of the spirit of self-determination and independence which these people had achieved during the first 65 years of their lives. In this re-

spect he spoke of the physicians' belief that "ways to present a continuing challenge to their minds and hearts should be developed."

It is to be hoped that Doctor Reynolds' and Mr. Flemming's statements to the Ways and Means Committee will help the members of that group to think a little beyond the political expediency of granting increased benefits to Social Security recipients.

Although it would seem, adding together the economic arguments of a Cabinet member and the human arguments of a physician, that the proposed

Forand legislation could hardly be expected to be enacted this year, the problem for medicine is not simply one of delaying or successfully opposing a specific bill at the present session, for it must be borne in mind as a political practicality that some such proposal may seem considerably more attractive to Congress in the coming election year of 1960.

Medicine's problem, both medical and political, is to find ways to deal with medical care for the aged that are better than any government plan that might be offered with prospect of enactment.

Letters to the Editor...

The Physician and The Press

IF WE HAVE personal problems and are confronted with situations that threaten our very existence, we certainly would not push away the helping hand of a friend. But this is exactly what we are doing as a profession. In our continuous fight for improved medical care for everyone, in our struggle against superstition, in our opposition to socialized medicine, in our efforts to use preventive medicine to its capacity—in all these enterprises we need the cooperation and understanding of our patients and the public in general.

When a physician recently concluded a lecture to a lay group on the subject, "How Your Doctor Makes His Diagnosis," a colleague who was in the audience approached the speaker and said, "If everyone knew what these people know now, the practice of medicine would be much easier."

Considering these facts it is all the more surprising that many of us give so little cooperation to those who can help us more than anyone else—the men of the press. The journalist is the liaison officer between the medical profession and the public. He can present and analyze our viewpoints, he can explain what socialized medicine would do to our country, he can destroy misconceptions about our daily work, our fees, our hospitals. Why, then, should one of us brush off a reporter who inquires about a newsworthy story with an impolite, "No comment." A monthly magazine has recently published an exaggerated article against our hospitals; a daily newspaper published on the front page the name of a physician who was sued by a hostile patient and, although the court found the doctor completely innocent, damage to his name was done. A reporter talks about "... those rich doctors with their swimming pools and Cadillacs ..." while you

just got a small home on a GI loan and are still paying on your 1954 Ford. Could it be that because of occasional occurrences like this we are prejudiced against *all* newsmen? Could it be that these stories would not have been published if we had given our side of the story?

The newspaperman has a broad education in all fields and his job is to present the current news and to comment upon it. He has to be honest, persistent, dedicated and a good writer, he has to be polite and at the same time is probably more often insulted than any other working man. The newspaperman like the doctor works hard. He is "on call" day and night and he has to study all his life. He, too, works for an ideal: To inform the public and, by doing so, possibly making the world just a little more of an understanding and tolerant place to live. It is his duty to the newspaper and the general public to get the news. To achieve this purpose he is anxious to cooperate with us. If he cannot get the story from us, he will get it from some other place and this may mean distortion, half truth and error. The fact that he has to work continuously against time to meet his deadline makes his work even more complicated.

If you are approached by an editor or reporter about a story, you may be afraid that your viewpoint might not find approval by your colleagues or that it would be considered "advertising" if your name appears. In such a case, don't refuse your cooperation but tell the newsman that you will write the story and send it to the medical association which in turn will revise it if necessary and turn it over to the press. If you have promised this, do it the same day because what is news today is not news tomorrow and "the other side of the story" might not be exactly what you want published. If

you have a good idea about something that should be brought to the attention of the general public, follow the same procedure. Progress is not made by people who have good ideas but by those who carry them out. If professional ethics forbid telling a newspaper reporter about what he asks, simply explain truthfully *why* you cannot do it.

We have to treat the press as we want them to treat us. Their questions should be answered honestly and there is no room for any "off the record" statements. To tell a reporter anything "off the record" is unfair. It is especially embarrassing if some other editor finds out the same facts and by publishing them gives you the impression that the reporter has not kept his word.

When giving information, use the same language you would use to explain something to a patient. Even if the reporter understands your technical terms completely, he might not have the time or ability to translate them into lay-language. If you meet a newspaperman at a social gathering or at the club meeting, tell him that you appreciate the importance of his work and that you respect his profession. You might mention to him facts that you want the public to know and that are in honor of our society, such as enlargement or new equipment

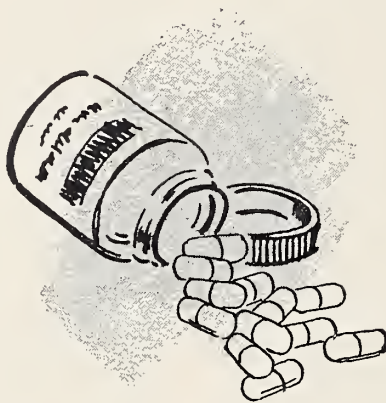
of a hospital, awards to local physicians, the anniversary of the Auxiliary, elections and scientific meetings that might be of interest to our community.

If you read a story concerning medical matters in a newspaper and you notice a minor error such as the misspelling of a physician's name, don't complain about it; such errors sometimes are made in the deadline race. If you find important inaccuracy, however, by all means see to it that the editor knows about it by calling yourself or dealing through the secretary of your medical association.

If we all, not only individually but through our state and national medical organizations would show more cooperation with the press, which is the most important link between us and the public in general, there would be probably fewer lawsuits, less quackery, more cooperation by our patients and perhaps not even the threat of socialized medicine. Maybe we have just as many misconceptions about the newsmen as he has about us.

It is the newspapers' duty to give the public honest, unbiased and complete information and it is our duty to heal the sick. Let's help each other in our endeavors.

KURT SCHNITZER, M.D., *Editor*
Orange County Medical
Association Bulletin



California MEDICAL ASSOCIATION

C.M.A. President Testifies in Forand Bill Hearings

Following is the testimony of T. Eric Reynolds, M.D., President of the California Medical Association, before the Ways and Means Committee of the U. S. House of Representatives concerning H.R. 4700 (the Forand bill) July 14, 1959:

MY NAME is T. Eric Reynolds. Since 1926 I have practiced medicine at Oakland, California. Although I trained in surgery and am a member of the American College of Surgeons, I have maintained a general practice. I am the President of the California Medical Association. For several years I was President of California Physicians' Service, California's Blue Shield Plan. I recently served as chairman of a special committee of the California Medical Association on problems of the aged and I am appearing here on behalf of the California Medical Association.

Physicians in California have been mindful of the medical care needs of our aged population and of the fact that all of us may expect a longer life span than our forefathers. To a great degree the medical problems of the aged are rooted in the mores of our culture. Also, to a great extent, our medical problems after the age of 65 are determined by such things as (1) the care of the individual before that time, (2) his or her attention to infections, (3) mental cultivation and relaxation, (4) physical fitness and exercise, (5) smoking habits, (6) the use of alcohol, (7) weight control and, lastly, food habits. Perhaps vitamins and hormones, both natural and synthetic, play some part, and certainly part of it is pure caprice, such as the factor of injury or exposure and stress and strain beyond the control of the individual. Heredity is definitely a factor in the medical problems of older people. Indeed, barring accidents, the choice of ancestors often determines whether an individual will qualify to reach that category.

It is my opinion that the two most prevalent difficulties of old age are (1) boredom and (2) lone-

liness, and that much of the medical attention that old people seek is traceable to these two underlying conditions.

There is a lot more to this problem than the passing of a compulsory insurance law and the spending of public money to provide certain hospitalization benefits.

For persons who have spent 65 years developing a spirit of independence and self-reliance, we would advise, as physicians, that ways to present a continuing challenge to their minds and hearts should be developed. We believe that voluntary health insurance can well be one of the means by which people can continue to be self-reliant.

With respect to availability of health insurance for persons over 65, California has many existing group insurance plans under which retirees may continue health and welfare benefits. Our Blue Shield and Blue Cross plans have for years incorporated the continuance of membership after retirement as a right—rather than a privilege—and we have over 150,000 retirees currently enrolled.

During the year, three large insurance companies, through statewide newspaper announcements, made available at modest cost, contracts for individuals

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over 65, on an individual enrollment basis, providing indemnification for hospital costs and surgical fees.

The California Medical Association, after years of study of both the medical and economic needs of the aged, directed California's Blue Shield Plan—California Physicians' Service—by a unanimous vote of the House of Delegates, to offer to all Californians aged 65 and over, an individual enrollment contract providing service benefits for surgery, and physicians' care, both in the hospital and, most importantly, on an outpatient basis, in the home or the physician's office. C.P.S. immediately developed this contract, and on June 1, 1959, made it available throughout the state. I offer to you for the records of the committee, copies of the newspaper advertisement that appeared June 1 and June 9 throughout the State of California.

I should like to emphasize that the contracts offered by the insurance carriers and Blue Shield in California are not merely in the planning stage. They are in being, and available on the market.

You will note that the Blue Shield program concentrates on professional services. It does not cover hospitalization. The reason for this is that California physicians have agreed to provide service benefits for low income retirees at reduced fees, in order to hold the monthly dues rates within the ability of the low income group to pay, and in order to provide the home and office outpatient care which constitutes the greatest day-to-day medical need of the aged population, and the greatest drain upon its income.

This program dovetails with that of the California county hospital system. For almost a century we have had a system of county owned and operated hospitals, staffed voluntarily and without charge by the physicians of the state. By custom and by law in California, the facilities of our county hospitals are open to persons who have income or resources of their own, but which would not be adequate to cover the cost of private hospital care.

We believe that we have more than made a start toward economic security for our aged population in the area of medical care costs, through existing voluntary health care plans, including the right of continued coverage after retirement, as well as through our individual contracts for those 65 and over.

Further—and this I wish to emphasize—our programs are available to *all* persons 65 and over. They are not restricted to those covered under the Social Security Act. They are available as well to those who were self-employed or otherwise not qualified for Social Security. In this respect, our voluntary approach is more inclusive than the proposed legislation before you.

The California Medical Association urges that government should not provide compulsory health insurance for those over 65 until and unless it has been proved that voluntary insurance cannot do the job. In the area of health care of the aged, we are confident that voluntary efforts toward budgeting the cost of illness for the aged will continue to develop rapidly and will solve the problem.

Enactment of compulsory insurance at this time will destroy many programs now in effect.

I believe there is a parallel in an event that occurred in California some 14 years ago. In January, 1945, our State Legislature was urged to enact compulsory health insurance on the ground that voluntary health insurance had proven inadequate.

At that time, our Blue Shield plan was barely six years old and still pioneering an idea that was strange and new to the public, and to medical personnel as well. Its acceptance as a viable mechanism had not been great, and total membership stood at a little over 106,000 persons. Commercial insurance carriers, watching our performance, offered little to supplement it.

Nevertheless, the California Medical Association opposed the compulsory proposal and urged the Legislature and the people of California to give private initiative, which had made a bold beginning, a reasonable opportunity to develop and establish itself. The Legislature heeded the plea and rejected the compulsory proposal.

In the next decade, voluntary health insurance coverage literally spread like wildfire. In the *five* years from 1945 to January 1950, our C.P.S.-Blue Shield membership increased more than eightfold. In various combinations of benefits, insurance carriers entered the medical field in great numbers and with competitive vigor. Blue Cross extended its well-warranted influence in the market. Group practice plans competed for the public's attention. The concept of labor-management "trusteed" health and welfare plans quickly took root in California, after the Inland Steel decision in the late 1940's.

The Health Insurance Institute has reported that California leads the nation in the amount of disbursements under health insurance contracts in 1958. Carriers paid out over \$316,000,000 in our state to meet liabilities incurred for hospital and physicians' services.

The extensive availability of coverage following retirement has resulted in millions of Californians being protected against the costs of illness and injury by voluntary health insurance programs. Private initiative, coupled with social responsibility, has made this achievement possible.

We submit that California's newest voluntary prepaid medical care plan for the aged is not the per-

fect plan any more than were our initial efforts with our Blue Shield program. However, we are making a start—we are heading in the right direction.

Changes in a voluntary plan can be made as experience indicates. And these changes can be made to conform with varied local needs.

The problems of the aged are manifold and sensitive. Physicians are in a unique position to evaluate some of these problems, for when we see these elderly people they usually tell us about their prob-

lems—medical and otherwise. I am taking the liberty of filing herewith an address I delivered a few weeks ago to the Western Branch, American Public Health Association, in which I expressed some additional thoughts on this subject. I hope the ideas developed in it may be useful to you in your deliberations. I still believe, as I stated before, there is a lot more to all this than the passing of a law.

I want to express our appreciation for the opportunity to discuss this matter with this committee.

Council Meeting Minutes

Tentative Draft: Minutes of the 449th Meeting of the Council, Santa Barbara, Biltmore Hotel, May 9 and 10, 1959.

The meeting was called to order by Chairman Lum in Room A of the Biltmore Hotel, Santa Barbara, on Saturday, May 9, 1959, at 9:30 a.m.

Roll Call:

Present were President Reynolds, President-Elect Foster, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Shaw, Gifford, Harrington, Davis, Sherman, Campbell, Lum, Bostick and Teall. Absent for cause, Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Clancy, Thomas, Whelan, Marvin, Edwards and Collins of C.M.A. staff; Eugene Salisbury of the Public Health League of California; Messrs. Hassard and Huber, legal counsel; county executives Scheuber of Alameda-Contra Costa, Nute of San Diego, Dermott of Sonoma, Geisert of Kern, Dochterman of Sacramento, Bannister of Orange, Pettis and Field of Los Angeles, Wood of San Mateo, Donovan of Santa Clara, Brayer of Riverside, and Thompson of San Joaquin; Dr. Daniel Blain, director of the State Department of Mental Hygiene; Mr. Jack Wedemyer, director, and Dr. John Keyes, Medical Director, of the State Department of Social Welfare; William Rogers of the California Academy of General Practice; Wilson Wahlberg of California Physicians' Service; Dr. James Dalton, President of the Santa Barbara County Medical Society; and Drs. Joseph Telford, Francis E. West, Werner Hoyt, Dan O. Kilroy, Francis J. Cox and Alfred Auerback.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 448th meeting of the Council, held April 11, 1959, were approved.

2. Membership:

(a) A report of membership as of May 6, 1959, was presented and ordered filed.

(b) On motion duly made and seconded, 213 delinquent members whose dues had been received since April 11, 1959, were reinstated.

(c) On motion duly made and seconded in each instance, ten applicants were voted Retired Membership. These were: Harold D. Berlin, Alameda-Contra Costa County; Leslie H. Butka, George H. Ernsberger, Roscoe A. Ford, Philip A. Reynolds, Manuel H. Haig, Elizabeth B. Hammons, William W. Hutchinson, Walter M. Jones, Los Angeles County, and Raymond H. Munford, Orange County.

(d) On motion duly made and seconded in each instance, 13 applicants were voted Associate Membership. These were: John H. Baier, Arthur Kassel, John C. Reidenbach, Franco Sangalli, Bernice R. Walters, Alameda-Contra Costa County; John J. Harris, Charles A. Holley, Rose DeM. Jenkins, Ruth Anne McCormick, Daniel Stowens, Charlotte S. Tyler, Los Angeles County; Grover J. Liese, San Francisco County, and Ruth H. Winzeler, Ventura County.

(e) On motion duly made and seconded, reductions in dues were voted for seven members because of illness or postgraduate study.

3. Liaison Committee with California Hospital Association:

Dr. Francis E. West presented a draft of proposed guides for the conduct of physicians in hospitals, asked for suggestions which might be shown in a succeeding draft and reported that the liaison committee would meet with hospital representatives for a further review of the suggested guides. He reported that the committee wished to retain one proposed guide to the effect that hospital staffs should select their own department chiefs rather than have such selections made by others. On motion duly made and seconded, it was voted to authorize the Committee for Emergency Action to approve this tenet in a later draft.

4. *Report of the President:*

President Reynolds reported on a meeting of the Committee on Medical Care Plans, under the Council on Medical Services of the American Medical Association. The regional conference was held in Memphis and devoted its attention to plans for the care of the aged. Dr. Werner Hoyt supplemented Dr. Reynolds' report with quotations by a number of the participants in the conference.

5. *Report of the President-Elect:*

President-Elect Foster reported on meetings held with local and state officials of the Department of Motor Vehicles on the subject of medical provisions to reduce accidents caused by motorists with epilepsy or other convulsive conditions. The State Director of Motor Vehicles plans to bring in a report on this subject which Dr. Foster will bring before the Council.

6. *Commission on Medical Services:*

(a) Dr. Joseph W. Telford, reporting for the Committee on Uniform Claim Forms, presented the draft of a form which the committee would like to provide for physicians in selected areas on a pilot basis, to determine whether or not such form is adequate and acceptable to both physicians and insurance carriers. He suggested that \$3,000 be provided for such a test. This request was deferred to the financial section of the meeting.

(b) Chairman Reynolds of the ad hoc Committee on Problems of the Aging, and Dr. Thomas Elmendorf, chairman of the Committee on Indigent and Aged, reported on a joint meeting held the preceding evening. Dr. Elmendorf presented the recommendations of the joint committees, which included (1) a continuing study of needs, unmet needs, facilities and resources for the care of the aged be made, (2) a directory of nursing home, hospital and other facilities in all areas of the state be published, (3) that a special meeting of the House of Delegates be scheduled for August or September, to which the expenses of county committee chairmen would be paid, and (4) that the name of the Committee be changed to "Committee on Problems of the Aging."

On motion duly made and seconded, it was voted to receive this report for informational purposes, that copies be prepared and distributed to the members of the Council and of the Commission on Medical Services and that the recommendations of the Commission be considered at a subsequent meeting.

On motion duly made and seconded, it was voted to authorize the President to write immediately to the presidents of all county societies to reiterate the 1959 House of Delegates resolutions relative to the aging population.

(c) Chairman F. J. Cox reported on a meeting between the Committee on Fees and the Committee for Emergency Action on the question of determining dollar factors for the Relative Value Study on a county basis and on other matters. A report was submitted.

On motion duly made and seconded, it was voted to furnish factors to the county societies on their request, on the basis of the current study.

(d) On the subject of rehabilitation, it was regularly moved, seconded and voted to create a subcommittee of the Commission of Medical Services to study the feasibility of a study of nursing homes and other facilities, such committee to include representatives of other committees having an interest in rehabilitation; the chairman of the Commission to appoint the subcommittee.

(e) Dr. Cox reported that he, Mr. Hassard and Mr. Whelan had attended four hearings of the Industrial Accident Commission on the Association's application for revision of selected fees in the industrial fee schedule. The Industrial Accident Commission now has the application under consideration.

(f) Relative to legislative proposals for the provision of health insurance for federal employees, it was regularly moved, seconded and voted to authorize the Commission to follow these proposals and report on them when such reports are indicated.

(g) Relative to Resolution No. 14 of the 1959 House of Delegates, which called for a separation of cost items in billings for health insurance coverages, it was pointed out that unless all health insurance carriers followed this practice, unfair competitive advantages might result. On motion duly made and seconded, it was voted to invite representatives of all type of carriers to discuss this proposal.

(h) Dr. Cox submitted a proposed letter to component societies implementing the Council resolution on usual fees (March, 1959, Council meeting, item 3); on motion duly made and seconded it was voted to approve the letter.

(i) A proposal for the appropriation of an additional \$5,000 to carry on the Commission's work to the end of the fiscal year was deferred to the financial section of the meeting.

7. *State Department of Mental Hygiene:*

The chairman introduced Dr. Daniel Blain, newly appointed Director of the State Department of Mental Hygiene, and welcomed him to this and later meetings.

Dr. Blain expressed his desire to work with medical organizations and reported that a basic policy in the department would be to furnish mental health care on a community basis, to provide care in state hospitals designed to minimize the time spent by

patients in these hospitals and to minimize the need for construction of additional hospitals.

8. *State Department of Social Welfare:*

Dr. Sherman, chairman of the Liaison Committee, reported on a meeting of the committee earlier in the day with Dr. John Keye and Mr. Jack Wedemyer of the Department of Social Welfare relative to the time limit for billing and other matters.

Dr. Sherman introduced Mr. Jack Wedemyer, newly appointed Director of the State Department of Social Welfare, who reported that a legislative bill was now on its course through the State Legislature which would set a 60-day time limit on billings by physicians for their services to welfare recipients. He asked the Council to consider this measure and advise him of its wishes. On motion duly made and seconded, it was voted to propose that this limit be set at six months and to instruct the Committee on Legislation to follow this legislation with that end in mind.

9. *Committee on Nominations:*

(a) Dr. Bostick proposed that Drs. Francis E. West and Stanley R. Truman be named as members of the Advisory Committee to the Woman's Auxiliary. On motion duly made and seconded, these nominations were approved. (The President, President-Elect and Secretary also serve on this committee.)

(b) Dr. Bostick recommended that the Committee on Traffic Safety, which has functioned without standing committee status for two years, be made a subcommittee of the Committee on Industrial Health. This proposal was tabled and taken up later under the report of the Commission on Community Health Services.

(c) Dr. Bostick recommended that a proposal from the House of Delegates for a study of a possible Basic Science Law be referred to the Commission on Public Policy, with authority for that commission to appoint a subcommittee on this proposal. On motion duly made and seconded, this recommendation was approved.

(d) For liaison with the California Teachers Association, Dr. Bostick proposed that a subcommittee be named under the Committee on School Health, the chairman of the Commission on Community Health Services to name the members of the subcommittee. On motion duly made and seconded, this proposal was approved.

(e) For the Committee on Public Relations, Dr. Bostick nominated Dr. William F. Quinn to replace Dr. Wayne Pollock, resigned. On motion duly made and seconded, this proposal was approved.

10. *Commission on Community Health Services:*

Chairman MacLaggan of the Commission on

Community Health Services reported on several items resulting from a commission meeting. Among these were:

(a) Relative to Resolution No. 78 of the 1959 House of Delegates, the commission recommended that the primary objective should be the education of physicians in the indications for cytology examinations and that this education be carried on as a part of the educational programs of the Cancer Commission rather than through publications of the Association or the county societies.

On motion duly made and seconded, this procedure was approved.

(b) Relative to Resolution No. 29, the commission recommended that the general principles of ethics pertaining to consultations and rendering of bills for consultative services be published in *Newsletter* and that reference be made to the fact that the interpretation of cytology smears is in this category. On motion duly made and seconded, this procedure was approved.

(c) With reference to appointment of a Committee on Traffic Safety (see item 9(b)) Dr. MacLaggan recommended that this committee be made an ad hoc committee under the Commission on Community Health Services. On motion duly made and seconded, this proposal was approved. The chairman named the former committee, which included Drs. Lewis F. Ellmore of Orange County, Eugene Webb of San Francisco and Chester K. Barta of San Diego, with Ralph Teall of Sacramento serving ex-officio.

11. *Commission on Public Policy:*

Chairman Dan O. Kilroy, reporting for the Committee on Legislation, stated that a testimonial dinner was to be given for Assemblyman Byron Rumford, chairman of the Assembly Committee on Public Health. On motion duly made and seconded, it was voted to prepare a suitable resolution for this occasion, for presentation to Mr. Rumford by President Reynolds.

Mr. Hassard reported on the status of several legislative bills, among them Assembly Bill 1390, which would redefine insanity for legal reasons. Since there has been a question raised by some district attorneys on the language of this bill, Mr. Hassard recommended that the Committee on Mental Health meet with the Association of District Attorneys to clarify any points in question. On motion duly made and seconded, this proposal was authorized.

Mr. Eugene Salisbury reported on the status of several additional bills now before the Legislature.

12. *Financial:*

(a) Mr. Hassard presented a revised type of financial report and discussed the various items.

AUTUMN MEETING FOR CMA AND COUNTY SOCIETY KEY PERSONNEL

A two-day Autumn meeting at which county society officials and key personnel of active committees will meet with officers, committee leaders and members of the staff of the California Medical Association for reports and exchange of information on various programs of interest to the medical associations is now in the planning stage.

The meeting, to be held in Los Angeles probably early in October, was proposed by the CMA Commission on Medical Services and approved by the Council. It will take the place of the one-day gathering of county society officers that formerly was held in January each year. The earlier date and the expanded meeting were recommended because of the need to formulate and begin carrying out association programs in various fields, particularly medical care for persons over 65 years of age.

A special committee has been appointed to work out an agenda and other details of the meeting.

It was agreed that this type report, showing a projected cash position, should be prepared at three-month intervals.

(b) Mr. Hassard suggested that the independent auditors be asked this year and at about three-year intervals to review all accounting procedures used by the Association. On motion duly made and seconded, it was voted to authorize a sum estimated at about \$500 for this purpose.

(c) On motion duly made and seconded, it was voted to authorize an additional \$5,000 to the Commission on Medical Services to enable it to complete work in process.

(d) On motion duly made and seconded, it was voted to authorize not more than \$2,000 to permit the Committee on Uniform Claims Forms to carry out a pilot study on the use of a proposed form.

13. *Committee on Scientific Work:*

(a) The report of the Committee on Scientific Work was considered and it was agreed to defer until the next meetings the committee's proposals (1) that the Annual Session dates be set for the latter part of February each year, and (2) that a period of three days be allowed between sessions of the House of Delegates to allow better attendance at scientific meetings.

(b) On motion duly made and seconded, it was voted to approve the committee's suggestion that the President's Dinner at each Annual Session be made a combined function with the Woman's Auxiliary, with provision for a joint reception prior to

the dinner and elimination of the Auxiliary reception as an individual event.

14. *Commission on Professional Welfare:*

(a) Chairman Kirchner of the Commission on Professional Welfare recommended that a paper prepared under the commission's direction on the question of privilege for physicians be published in CALIFORNIA MEDICINE. On motion duly made and seconded, it was voted that this paper be submitted to the editor for publication upon his approval.

(b) Relative to major hospitalization group insurance, it was reported that county society representatives had urged endorsement of Plan III, to be underwritten by California Physicians' Insurance Corp. On motion duly made and seconded, it was voted to approve this plan and underwriter and to urge California Physicians' Insurance Corp. and the commission to investigate the feasibility of providing coverage for senior physicians who might not be continuing in practice.

On motion duly made and seconded, it was voted to offer this plan to the county societies through California Physicians' Insurance Corp.

15. *Liaison Committee with California State Bar:*

Chairman West of the Liaison Committee with the California State Bar recommended that the county societies adopt the code of cooperation between physicians and attorneys which has been prepared by the joint committees. On motion duly made and seconded, it was voted to approve this proposal.

16. *California Physicians' Service:*

President Arlo A. Morrison of C.P.S. reported that plans are under way to offer the new contract for persons above 65 years of age. Offering is planned for June 1.

Dr. Morrison suggested that the Council consider approval of statewide offering of a regular contract under a \$7,200 annual income ceiling and using a \$5 factor under the Relative Value Study.

17. *Association Mailing List:*

Two requests for use of the Association mailing list were considered and both rejected under policies in force for a number of years.

18. *Time and Place of Next Meeting:*

The chairman announced, the Council concurring, that the next meeting would be held June 27 in San Francisco and the following meeting August 8 in Los Angeles.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 9:40 a.m., Sunday, May 10, 1959.

DONALD D. LUM, M.D., *Chairman*

MATTHEW N. HOSMER, M.D., *Secretary*

CALIFORNIA MEDICAL ASSOCIATION

Annual Meeting

Ambassador Hotel

LOS ANGELES

February 21 to 24, 1960

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted to the appropriate section secretary (see list on this page) no later than August 31, 1959.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 450 Sutter Street, San Francisco 8, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than September 1, 1959. (No exhibit shown in 1959, and no individual who had an exhibit at the 1959 session, will be eligible until 1961.)

Medical Motion Pictures

The daytime Film Symposiums which proved so popular during the 1959 sessions will be continued in 1960. Evening film programs will be planned for doctors, their wives, nurses and ancillary personnel.

Authors desiring to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline is October 1, 1959.

PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY Gardner S. Stout, Acting Secretary
39 North Son Mateo Drive, Son Mateo

ANESTHESIOLOGY Roger W. Ridley
5914 Birch Street, Riverside

DERMATOLOGY AND SYPHILOLOGY . . . Edward L. Laden
301 North Proirie Avenue, Inglewood

EAR, NOSE AND THROAT Heinrich W. Kohlmoos
426 17th Street, Oakland 12

EYE Earle H. McBain
1530 Fifth Avenue, Son Rofoel

GENERAL PRACTICE Floyd K. Anderson
1233 North Vermont, Los Angeles 29

GENERAL SURGERY Philip R. Westdahl
490 Post Street, San Francisco 2

INDUSTRIAL MEDICINE AND SURGERY . Robert C. Rossberg
1660 South Alameda Street, Los Angeles 21

INTERNAL MEDICINE Charles D. Armstrong
1111 University Drive, Menlo Park

OBSTETRICS AND GYNECOLOGY . . . John C. McDermott
2010 Wilshire Boulevard, Los Angeles 57

ORTHOPEDICS Carl E. Horn
2901 Copitol Avenue, Sacramento 16

PATHOLOGY AND BACTERIOLOGY . . . Robert L. Dennis
675 East Sonto Clara Street, San Jose 12

PEDIATRICS James L. Dennis
5105 Dover Street, Ooکلond 9

PHYSICAL MEDICINE Joseph E. Maschmeyer
1720 Brooklyn Avenue, Los Angeles 33

PSYCHIATRY AND NEUROLOGY . . . Leon J. Whitsell
909 Hyde Street, Son Francisco 9

PUBLIC HEALTH Merle E. Cosand
316 Mountain View Avenue, Son Bernordino

RADIOLOGY Frank C. Binkley
635 East Union Street, Posodeno 1

UROLOGY Morrell E. Vecki
450 Sutter Street, Son Francisco 8

In Memoriam

BROOKS, HERBERT THOMAS. Died in San Marino, June 29, 1959, aged 77. Graduate of University of Nashville Medical Department, Tennessee, 1906. Licensed in California in 1919. Doctor Brooks was a member of the Los Angeles County Medical Association.



CHILDRESS, MARMION HUGO. Died June 1959, aged 66. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1921. Licensed in California in 1921. Doctor Childress was a member of the San Francisco Medical Society.



DEWHIRST, WILLIAM HAMER, JR. Died in Merced, June 2, 1959, aged 43, of heart disease. Graduate of McGill University Faculty of Medicine Montreal, Quebec, Canada, 1947. Licensed in California in 1948. Doctor Dewhirst was a member of the Merced County Medical Society.



GHORMLEY, RALPH K. Died June 6, 1959, aged 66, of heart disease. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1918. Licensed in California in 1958. Doctor Ghormley was a member of the Monterey County Medical Society.



HELWIG, GEORGE FREEMAN. Died June 17, 1959, aged 52. Graduate of University of Kansas School of Medicine, Lawrence-Kansas City, Kansas, 1932. Licensed in California in 1953. Doctor Helwig was a member of the Orange County Medical Association.



JOHNSTON, HERBERT ALLAN. Died June 10, 1959, aged 85. Graduate of University of Southern California School of Medicine, Los Angeles, 1898. Licensed in California in 1898. Doctor Johnston was a retired member of the Orange County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



KELLY, MARCUS C. Died July 3, 1959, aged 52, of a cerebral vascular accident. Graduate of St. Louis University School of Medicine, Missouri, 1932. Licensed in California in 1933. Doctor Kelly was a member of the San Diego County Medical Society.

KREMERS, EDWARD D. Died June 23, 1959, aged 78. Graduate of University of Michigan Medical School, Ann Arbor, Michigan, 1903. Licensed in California in 1922. Doctor Kremers was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



LEETE, CAROLINE MCQUISTON. Died June 2, 1959, aged 82. Graduate of University of Southern California School of Medicine, Los Angeles, 1903. Licensed in California in 1904. Doctor Leete was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



MOORE, PAUL H. Died in Hollywood, June 8, 1959, aged 68. Graduate of Western Reserve University School of Medicine, Cleveland, Ohio, 1918. Licensed in California in 1929. Doctor Moore was a member of the Los Angeles County Medical Association.



MORROW, JAMES JOSEPH. Died June 11, 1959, aged 60. Graduate of University of Minnesota Medical School, Minneapolis, Minnesota, 1924. Licensed in California in 1940. Doctor Morrow was a member of the Los Angeles County Medical Association.



O'DONNELL, JOSEPH M. Died in Hollister, May 25, 1959, aged 81. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1902. Licensed in California in 1902. Doctor O'Donnell was a member of the San Benito County Medical Society, a life member of the California Medical Association, and a member of the American Medical Association.



THOMPSON, CLARENCE P. Died June 9, 1959, aged 73. Graduate of University of Toronto Faculty of Medicine, Ontario, Canada, 1907. Licensed in California in 1907. Doctor Thompson was a member of the San Francisco Medical Society.



WARRICK, JOSEPH DENNEY. Died May 3, 1959, aged 63. Graduate of Chicago College of Medicine and Surgery, Illinois, 1917. Licensed in California in 1949. Doctor Warrick was an associate member of the Ventura County Medical Society.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, California State Department of Public Health

A 40-YEAR-OLD Sonora man and an 11-year-old Walnut Creek boy are recovering from bubonic plague. There are two of three cases that have been recorded in California since 1947. The first case was that of an Oxnard man who died of plague in 1956, nine days after apparent exposure to infected fleas while on an outing in Ventura County.

The Sonora man became ill on July 8. The first symptoms were extreme weakness, diarrhea and fever. A physician made a housecall shortly after the onset of illness and noted conjunctivitis as well as the aforementioned symptoms. Sulfasuxadine was given and the fever dropped during the night.

The next morning, however, the temperature was 104°F. The patient appeared quite "toxic," and complained of weakness and headache. Conjunctivitis persisted. There were no other unusual physical findings. Hospitalization was advised and a specimen of blood was cultured. Administration of penicillin and tetracycline was begun. About 12 hours after admission, a bubo appeared in the left axilla. No lesion that looked like an insect bite could be seen. Tularemia, anthrax and plague were considered in the differential diagnosis.

The day after admission the patient was better. The blood culture showed bipolar Gram-negative rods. Penicillin was discontinued; streptomycin was begun. Tetracycline was continued as before. The patient's condition improved steadily. Cultures of the patient's blood were sent to the State Health Department laboratory where subsequent tests confirmed the diagnosis of plague.

A similar case of plague occurred in the 11-year-old boy. Weakness was one of the early symptoms and was followed by anorexia and vomiting. Upon physical examination the patient was observed to be extremely "toxic" and in a state of shock. A lesion that looked like an insect bite was seen on the right ankle. The right inguinal nodes were enlarged and tender. The patient was admitted to the hospital and a blood specimen was drawn.

Administration of streptomycin and penicillin was begun. The following day the culture showed bipolar Gram-negative rods. Tetracycline was substituted for penicillin. The patient improved rapidly and was soon home.

It is not known when the man contracted the disease, although it is possible he was bitten by plague-infected fleas in handling wild rodents he had killed while cleaning out a woodpile.

It is suspected the young boy contracted plague from a flea bite while on a camping trip in the high Sierra. However, results of laboratory tests of ectoparasites combed from 70 animals trapped in the camping area were negative for plague.

Plague has long been endemic in California, and spread to humans occasionally occurs from the bites of plague-infected fleas that live on rodents. In recent years the occasional case of human infection has been caused by exposure to wild rodents.

A review of surveillance information of this year's influenza episode shows there were approximately half as many cases as the previous outbreak, a part of the worldwide pandemic caused by the A-2 strain, which reached its peak in November 1957 and continued into the spring of 1958.

This year's outbreak began in January and reached a peak in March and April. The Asian strain of the virus was most prevalent during February and March, whereas the Type B virus was more prevalent in April and May.

Information has been gathered by the department on 15 laboratory-confirmed localized outbreaks of influenza in nine counties during the recent epidemic. In six of these outbreaks the Asian strain was identified; the Type B virus was identified in the other nine. Many other areas reported a high incidence of influenza, not laboratory-confirmed, during March and April, and a few schools were closed for brief periods due to extensive illness among the teaching staff and students.

The reports show 11 deaths in six counties associated with influenza. Five were in teenagers, four in persons over the age of 60. The other two were in a 30-year-old woman and an eight-year-old girl. The diagnosis of influenza in these fatal cases was on a clinical basis, supported by autopsy findings in some instances, except for one case in which Type B virus was indicated by laboratory study.

More than 40 southern California physicians serving as consultants in the cerebral palsy program of the Bureau of Crippled Children Services participated in a conference recently in Santa Ana.

The meeting provided an opportunity for the exchange of current information on the medical management of children with cerebral palsy. A conference highlight was the presentation of a problem case for consideration and discussions. A panel of orthopedic specialists, moderated by Dr. Allen R. LeRoy, Newport Beach, discussed "Casting vs. Operating for Foot and Ankle Problems."

A presentation on "Drug Therapy in Cerebral Palsy" was given by Dr. Herbert J. Grossman, University of California Medical Center, Los Angeles, and a panel presided over by Dr. Tom Robinson, Newport Beach, discussed various aspects of "Vocational Training for the Cerebral Palsied."

Dr. Charles R. Gardipee, bureau chief, described current program developments and administration problems at the State level.

The U. S. Public Health Service is conducting a review of its quarantine program along the U. S.-Mexico border to determine what measures are needed to prevent the introduction of disease from outside the United States. A similar review was made in 1949.

There were 90 million crossings in 1958 at the 25 points of entry supervised by the Quarantine Service on the 1500-mile border. Of these, 25,300,000 crossings occurred at the four border entries into California.

A study has just been completed on the natural history of infectious hepatitis in the general population. Previous studies usually have been confined to epidemic situations or to "closed" populations such as persons in institutions.

For a period of two years a cooperative study was carried out by this Department and six local health departments in Los Angeles, Santa Clara and Alameda counties. Local health personnel made home visits on all "reported" cases of hepatitis. Through these follow-up visits additional cases were discovered. A total of 1,546 cases and 3,888 other family members "not ill" were investigated.

Gamma globulin is recommended for the protection of persons who have been exposed to infectious hepatitis. Forty per cent of the total 5,434 persons included in the study received injections of this material. The use of gamma globulin was shown to be effective in protecting exposed family contacts. The attack rate of illness was 18 per cent in those who did not receive it, as compared to 2.3 per cent in those who did.





WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

Now, a New Task for the Auxiliary...

THE FIRST REQUEST made of the Auxiliary by the American Medical Association was that it promote interest in *Hygeia*, which was renamed *Today's Health* with the March issue in 1950.

In 1931 the House of Delegates of the American Medical Association passed a resolution urging the Woman's Auxiliary, including county, state and national organizations, to promote the distribution of the publication through the parent-teacher associations, boards of education and similar bodies interested in education, for it was held to be the only authentic health periodical in the country for the laity.

In 1868, twenty-one years after the founding of the A.M.A., the first proposal was made in the House of Delegates that a health magazine for the layman be established.

In 1922, fifty-four years later, the proposal was approved by the Board of Trustees.

In 1923 the first issue of *Hygeia* came off the press.

In 1950 the name of the magazine was changed to *Today's Health*.

In 1959 the new *Today's Health* has reached a record high in circulation with millions of readers throughout the country.

At the A.M.A. Convention at Atlantic City in June the Auxiliary was advised that the promotion of *Today's Health*, as an auxiliary project, would no longer be necessary.

So fulfilling our objective to assist the California Medical Association in its program for the advancement of medicine and public health—and to participate in any endeavor on the request of the C.M.A. we close our files on our first project, *Today's Health*, and turn our efforts to a new request. We will assist the California Medical Association in its program in the field of aging.

Every newspaper and magazine today carries a story on aging, slanting or shading the article to suit the purpose, be it political, social or economic.

The medical profession, seeking the best medical care possible for every American, has joined with allied health organizations to improve the care of the aged. The joint council includes the American Medical Association, the American Dental Association,

American Hospital Association and the American Nursing Home Association.

The following, from an article by Howard I. Wells, Jr., executive secretary of the Joint Council to Improve the Health Care of the Aged, helps describe the task:

The objectives of the Joint Council are to correlate the efforts and resources of member organizations, as the principal purveyors of health care for the aged, and to establish liaison and a cooperative relationship with other organizations working with similar purposes in:

(a) Identifying and analyzing the health needs of the aged,

(b) Appraising available health resources for the aged,

(c) Fostering effective methods of payment for the health care of the aged,

(d) Developing community programs to foster the best possible health care for the aged, and

(e) Informing the public of the facts related to health care of the aged.

The need for new programs in this field is accentuated by the fact that the life expectancy of individuals has been constantly increasing in recent years. In 1935 life expectancy in the United States was an average of 60.2 years. The most recent figure indicates the average life expectancy now to be 70 years.

The American Medical Association, at the request of the Board of Directors, will urge presidents of medical societies to invite representatives of state dental, hospital, and nursing home associations to participate in formation of state joint councils. Some states have already established councils to foster the finest possible health care for the aged at the local level. Establishment of close liaison and a cooperative relationship with state groups will enable the Joint Council to increase the effectiveness of its national program.

The Auxiliary members will be asked to aid in appraising available health resources for the aged in their home communities in order that an information center may be set up by the C.M.A.

In her inaugural address at Atlantic City, Mrs. Frank Gastineau, president of the Woman's Auxiliary to the American Medical Association, spoke about the role every physician's wife must play in the campaign of the A.M.A. in the field of aging. "The Woman's Auxiliary has a big job ahead in this field alone; not only for next year, but for years to come," Mrs. Gastineau said.

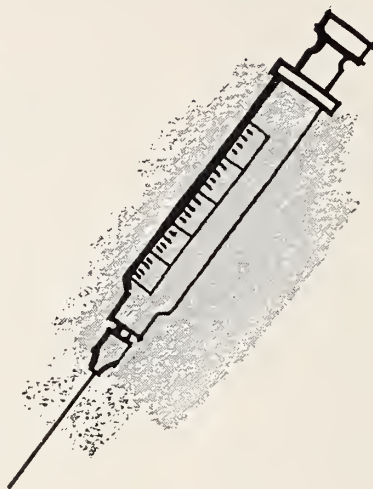
We as wives, mothers and yes, even grandmothers must recognize the stake in the future that we have through our own families, our fellow citizens and our nation. We must strongly influence this generation and future generations to help preserve the spiritual and moral values from which our civilization seems to be drifting.

Our physician husbands sustain the precious flame of life; we as wives and mothers must guard the values which give life meaning. Among these are human dignity, freedom and a feeling of personal worth. Yet are we not robbing our elder citizens of these very things? May we not recognize that at the heart of the problems of our aging population is an increasing disregard for moral and religious values Americans have always held. Selfishly,

we have convinced ourselves that we can shunt the responsibility of caring for our own off onto others—onto government agencies, onto welfare groups.

Well, then, here's a job for us. The way is open for us to lead others to accept without complaint the responsibility of "caring for our own." Our husbands are adding years to life; you and I can create the kind of atmosphere in modern society which will make those years worth living.

MRS. THEODORE A. POSKA
*President, Woman's Auxiliary to the
California Medical Association*



NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The 1959-60 officers of the **Los Angeles Radiological Society**, who were elected in June and will take office September 1, 1959, and serve until September 1, 1960, are as follows: President, Dr. Putnam C. Kennedy; vice-president, Dr. Robert E. Rickenberg; treasurer, Dr. Robert B. Engle; secretary, Dr. Denis C. Adler. Dr. Lewis J. Peha was elected to the executive committee for a three-year term.

* * *

An **Institute of Advanced Learning**, headed by Dr. Morris Fishbein, former editor of the *Journal of the American Medical Association*, is included in the City of Hope's plans for expansion in the next two years. Dr. Fishbein said that the proposed Institute will be organized along the lines of the Institute of Advanced Studies at Princeton and the Institute for Behavioral Sciences at Stanford.

MARIN

Dr. Robert Watkins recently was elected mayor of Belvedere by the city council. Dr. Watkins was vice-mayor and for two meetings was acting mayor after the former incumbent resigned to take a job in Switzerland.

SAN DIEGO

Dr. David B. Carmichael, La Jolla, was elected president of the San Diego County Heart Association at the annual meeting of the association in June.

* * *

Announcement that the Scripps Clinic and Research Foundation has established a **division of psychiatric medicine** and appointed Dr. Frederick J. Ziegler to be head of the new department was made recently by the board of trustees. Until his appointment, Dr. Ziegler was a member of the staff of the Johns Hopkins Hospital and School of Medicine.

SAN FRANCISCO

Mount Zion Hospital, San Francisco, and the University of California School of Medicine, Berkeley, have received awards of money from the Life Insurance Medical Research fund to support **research work on heart disease** under the direction of members of the staffs of these institutions.

The Mount Zion grant was \$19,800 for research by Dr. Meyer Friedman on the roles of the liver and hyperlipemia in cholesterol metabolism.

The U. C. award was \$39,600 for studies on the development and prevention of arteriosclerosis under the direction of Dr. I. L. Chaikoff.

* * *

Dr. Robert A. Campbell, San Francisco, has been awarded a Wyeth Laboratories pediatric residency fellowship, it was announced by Dr. Philip S. Barba, chairman of the selection committee. Dr. Campbell, who recently completed his internship at Moffitt Hospital, will take his residency at the University of California where he received his undergraduate and medical degrees.

GENERAL

On September 13 the **California Medical Assistants' Association** will hold the first of several Educational Symposiums that are planned for various areas in the state in the next few months. The September 13 symposium, the place for which has not yet been selected, will be sponsored by Monterey, Santa Clara, and Salinas chapters. Following are the dates for the rest of the 1959-60 Symposiums: September 20, Long Beach, Harbor and Centinella chapters; October 4, San Diego; November 15, Beverly Hills, Los Angeles and San Fernando chapters; January 17, 1960, Orange

Relative Value STUDY, not a schedule

Since its beginning in 1954 the California Medical Association's Relative Value Study has been used, mis-used and abused and, say C.M.A. officials, there ought to be review by all who use it of what the Study is, what it is to be used for, and how it should not be used.

The most common mis-use, consciously or otherwise—premeditated or through lack of information—is to interpret the work as a definite, frozen, official *fee schedule* rather than using it, as originally intended, as a guide to show the relative pecuniary values of various procedures.

The Committee on Fees has proposed the following statements as reminders of the limitations of the Study:

1. The work is properly referred to as the Relative Value Study, not Relative Value Fee Schedule. As stated in the foreword of the second edition which was adopted by the Council on Nov. 10, 1957: "This study in no way sets anyone's fees or anyone's schedule of fees. The Relative Value Study is in no sense a fee schedule."

2. Contrary to any claims that may be made by individuals or insurance companies, no dollar factors have been assigned, designated or suggested by the California Medical Association for private insurance.

3. Units shown for certain surgical procedures do not include complete after-care.

4. Conversion factors that may apply in one section do not necessarily apply to the other sections.

CAN BE USED AS A GUIDE

Section No. 2 of the foreword further explains:

"Health insurance in California today requires fee schedules and indemnity schedules at many different dollar levels. California Physicians' Service needs different fee schedules for different income ceiling plans. Many groups want to buy indemnity insurance that pays benefits approximating the usual fees charged by physicians. Others want adequate protection at a low premium and will accept an element of co-insurance. The Relative Value Study, expressed in units, may be used as a guide in setting any and all of these schedules with widely varying dollar levels but retaining a constant relationship between fees."

County chapter; February 7, 1960, Riverside, San Antonio and San Bernardino chapters; and March 27, Sacramento and Mt. Diablo chapters. Each is to be a one-day meeting open to all medical assistants and persons in allied medical fields. Outstanding speakers and panels of experts are features of the day-long sessions. Further details can be obtained by writing to C.M.A.A. Educational Chairman, Catharin Snodderly, 2359 California Avenue, Carmichael, California.

* * *

The 24th annual congress of the North American Federation, **International College of Surgeons**, will be held in the Palmer House, Chicago, September 13 to 17. The North American Federation covers the United States, Canada, Mexico, Cuba, Haiti, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama. Further information may be obtained from International College of Surgeons, 1516 Lake Shore Drive, Chicago 10.

Surgical specialties to be represented are: Colo-protologic, neurologic, obstetrics and gynecologic, ophthalmologic, otorhinolaryngologic, orthopedic, urologic, plastic and reconstruction and trauma. There also will be surgical motion pictures, reports on advances in military medicine, and a surgical nurses' program.

* * *

The third annual meeting of the **Medical Society of the United States and Mexico** will be held in Phoenix (at the Valley Ho Hotel, Scottsdale) December 2 to 4, followed by a two-day meeting in Las Vegas, Nevada, on December 5 and 6. Scientific sessions are scheduled for December 3, 4 and 5 at the two locations. Further information may be obtained by writing to Drs. Carlos Greth and A. H. Tallakson, convention co-chairmen, 2025 North Central Avenue, Phoenix.

* * *

The next Congress of the **Pan American Medical Association** is planned for Mexico City from May 2 to 11, 1960. The scientific program of the Congress, through its 48 different Medical Sections, will include all branches of medicine and surgery and also a section on dentistry, the announcement of the meeting said.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Three Summer Seminars at University of California Residential Conference Center, Lake Arrowhead (all fees at Lake Arrowhead include room and board):

Pediatric Cardiology. Sunday through Wednesday, August 16 through 19. Fifteen hours. Fee: \$137.50.†
Guest speaker: John Lind, M.D., Stockholm, Sweden.

† Limited enrollment.

Emotional Problems in Office Practice. Wednesday through Sunday, August 19 through 23. Fifteen hours. Fee: \$150.00.†

Seminars in Internal Medicine. Sunday through Wednesday, August 23 through 26. Fifteen hours. Fee: \$137.50.†

Workshop on In-Service Education Programs. Monday through Thursday, August 17 through 20. Eighteen hours. Fee: \$25.00.

Development and Principles of Industrial Nursing. Thursdays, September 10 through January 28. Forty-five hours. Fee: \$35.00.

Cerebral Palsy. Tuesday and Wednesday, September 15 and 16. Twelve hours. Fee: \$35.00.

Teaching Clinics. Thursdays, September 17 through December 10. Twenty-four hours. Fee: \$50.00. (No meeting November 26.)

Common Problems of the Foot. Friday and Saturday, September 18 and 19. Nine hours. Fee: \$35.00.

Industrial Health (Public Health). Tuesdays, September 22 through December 8. Thirty hours. Fee: \$25.00.

Beginning Medical Terminology. Tuesdays, September 22 through February 2 (omit December 22, 29). Forty-five hours. Fee: \$35.00.

Counseling and Placement of Hospital Nursing Personnel. Wednesdays, September 23 through December 9. Thirty hours. Fee: \$25.00.

Public Health Statistics. Wednesdays, September 23 through February 3 (omitting December 23, 30). Forty-five hours. Fee: \$35.00.

Practical Clinical Chemistry for Laboratory Technologists. Wednesdays, September 23 through November 11. Twenty-four hours. Lecture and laboratory fee: \$35.00 plus \$5.00 breakage; lecture only \$20.00.

Medical Terminology: Advanced. Thursdays, September 24 through February 11 (omitting November 26, December 24, 31). Forty-five hours. Fee: \$35.00.

Diagnostic Parasitology (Pomona). Tuesdays, September 24 through December 15. Thirty-six hours. Fee: \$40.00.

Hypertension. Saturday, September 26. Six hours. Fee: \$20.00.

Pathological Physiology of the Cardiovascular System. Mondays, October 5 through December 7. Twenty hours. Fee: \$60.00.

Advanced Clinical Electrocardiography. Tuesdays, October 6 through December 8. Twenty hours. Fee: \$60.00.†

Two-Week Rehabilitation Nursing Workshop. Daily, October 19 through 30. Thirty hours. Fee: \$25.00.

Neuropathology. Tuesdays and Thursdays, October 22 through December 10. Sixteen hours. Fee: \$100.00.

Aviation Medicine. Wednesday, Thursday and Friday, October 28, 29 and 30. Eighteen hours. Fee: \$65.00.

Photomicrography. Mondays, November 2 through December 7. Twelve hours. Fee: \$30.00 plus \$2.00 for manual.

Ear, Nose and Throat. Friday and Saturday, November 13 and 14. Twelve hours. Fee: \$60.00.

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Special Announcement: A Postgraduate Course in Mexico City, in cooperation with Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina, Mexico, D. F. Instructional Staff will be drawn from the staff of the U.C.L.A. School of Medicine and the staff of the Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina. The program will include lectures and presentation of Clinical Cases in: Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. Wednesday, February 24 through Saturday, March 5, 1960.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Internal Medicine—A Selective Review. Saturday through Wednesday, September 12 through 16. Thirty-five hours. Fee: \$20.00 per day.

Obstetrical Complications. Thursday through Saturday, September 17 through 19. Eighteen hours. Fee: \$50.00.

Medicine for General Practitioners (evening series). Tuesday, September 22 through November 17. Eighteen hours. Fee: \$35.00.

Physical Medicine. Friday and Saturday, September 25 and 26. Fourteen hours. Fee: \$40.00.

Use of Laboratory Methods in Office Practice. Thursday through Saturday, November 5 through 7. Twenty hours. Fee: \$50.00.

11th Postgraduate Assembly in Endocrinology and Metabolism. Monday through Friday, November 9 through 13. Thirty-five hours. Fee: \$100.00.

Adolescents (Children's Hospital). Saturday, November 14. Seven hours. Fee: \$12.50.

Annual Ophthalmology Conference. Wednesday through Saturday, December 2 through 5. Twenty-four hours.*

Course for Physicians in General Practice. Monday through Friday, March 7 through 11. Thirty-five hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOntrorse 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

*Fees to be announced.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Dermatology and Syphilology Course. Full time, September 15 through August 15. Fee: \$1000.00.

Practical Diagnosis and Management of Cardiovascular Diseases. September 18 through 20. Twenty-one hours. Fee: \$65.00.

Intensive Review of Internal Medicine. Monday through Friday, September 21 through October 2. 9 to 12:30 a.m. Forty hours. Fee: \$65.00.

Bedside Clinics. Thursdays, October 8 through January 14. 7:30 to 9:30 p.m. Twenty-four hours. Fee: \$65.00.

Psychiatric Problems in General Practice. October 8 through December 17. Twenty-two hours. Fee: \$50.00.

Laboratory Methods. Friday, October 9. Seven hours. Fee: \$25.00.

The Doctor and the Family. Friday, October 16. Seven hours. Fee: \$25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: \$50.00.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: \$65.00.‡

Dermatology Clinic, One-Day Symposium. Thursday, March 24.§

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16.§

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

GENERAL SURGERY AND SURGERY SPECIALTIES. Full-time basic science course: Obstetrics and Gynecology, Otolaryngology and Urology. (Accredited by the American Board of Surgery). Monday through Friday, September 13 through June 3. 1,352 hours. Fee: \$800.00.

‡Hours to be announced.

§Fees and hours to be announced.

INTERNAL MEDICINE. Full-time basic science course. Monday through Friday, September 13 through June 3. 2,967 hours. Fee: \$800.00.

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

Surgical Anatomy: Dissection, Lectures, Demonstrations. Mondays, 10:00 to 12:00; 1:00 to 4:00; Wednesdays, 1:00 to 5:00; September 7 through June 1. 324 hours. Fee: \$250.00. Upper and Lower Extremities, September 7 through December 14. 140 hours. Fee: \$125.00. Thorax, Abdomen, Pelvis, January 4 through April 13. 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1, 63 hours. Fee: \$75.00.

Surgical Anatomy: Lectures and Demonstrations, Wednesdays, 3:00 to 5:00, September 9 through June 1. Mondays, 3:00 to 5:00, May 16 through June 1. 82 hours. Fee: \$100.00. Upper and Lower Extremities, September 9 through December 14. Thirty hours. Fee: \$50.00. Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

Surgical Pathology. Tuesdays, 1:00 to 4:00, September 8 through May 31. 108 hours. Fee: \$100.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. *Contact:* Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, November 9 through 13. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33, ANgelus 9-7241, Ext. 214.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general

practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

AUGUST MEETINGS

NEVADA STATE MEDICAL ASSOCIATION, Annual Session, jointly with Reno Surgical Society, August 19 through 22, Mapes Hotel, Reno. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

AMERICAN DIETETIC ASSOCIATION, Statler Hilton, Los Angeles, August 25 through 28. *Contact:* Miss Ruth M. Yakel, executive secretary, 620 N. Michigan Ave., Chicago 11.

SEPTEMBER MEETINGS

SAINT JOHN'S HOSPITAL Postgraduate Assembly, September 10 through 12, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 1328 22nd Street, Santa Monica.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Meeting, September 13 through 16, Olympic Hotel, Seattle, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Avenue, Seattle, Washington.

AMERICAN COLLEGE OF GASTROENTEROLOGY, September 19 through 26, Biltmore Hotel, Los Angeles. *Contact:* Mr. Daniel Weiss, executive director, 33 W. 60th St., New York 23, New York.

SANTA BARBARA COUNTY HEART ASSOCIATION Symposium on Cardiovascular Disease. Saturday, September 19. 9:00 a.m. to 5:00 p.m. Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

SAN FRANCISCO ACADEMY OF GENERAL PRACTICE Fort Miley Surgical Clinics and Symposia. Tuesday evenings, September 22 through November 3, 8:00 p.m., Fort Miley Veterans Administration Hospital, San Francisco. *Contact:* Robert W. Wolf, M.D., 760 Market Street, San Francisco.

AMERICAN GROUP PSYCHOTHERAPY ASSOCIATION First Western Institute, September 23, Olympic Western Hotel, Seattle, Washington. *Contact:* Merlin H. Johnson, M.D., program committee chairman, V.A. Hospital, 4435 Beacon Ave., Seattle 8.

OREGON STATE MEDICAL SOCIETY Annual Meeting, September 23 through 25, Medford, Oregon. *Contact:* Mr. Roscoe K. Miller, executive secretary, 1115 S.W. Taylor St., Portland 5, Oregon.

SAN FRANCISCO HEART ASSOCIATION 29th Annual Postgraduate Symposium on Heart Disease, September 30, October 1 and 2, 9 a.m. to 5 p.m. daily, St. Francis Hotel, San Francisco. *Contact:* Lawrence I. Kramer, Jr., executive director, 259 Geary Street, San Francisco 2. YUkon 2-5753.

OCTOBER MEETINGS

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, INC. 18th Annual Meeting, held in conjunction with Third Western Industrial Health Conference, all day October 2 and 3, Statler Hotel, Los Angeles. *Contact:* A. C. Remington, M.D., medical director, AiResearch Mfg. Co., 9851 Sepulveda Blvd., Los Angeles 45.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 2 through 4, Miramar Hotel, Santa Barbara. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Clyde C. Greene, Jr., M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

SAN DIEGO COUNTY HEART ASSOCIATION Ninth Annual Symposium on Heart Disease. October 5 and 6, El Cortez Hotel, San Diego. *Contact:* O. M. Avison, executive director, 3545 4th Avenue, San Diego.

LOS ANGELES COUNTY HEART ASSOCIATION 29th Annual Professional Symposium. October 7 and 8, 9:00 a.m. to 5:00 p.m., Beverly-Hilton Hotel, Beverly Hills. *Contact:* Chauncey A. Alexander, executive director, 660 South Western Avenue, Los Angeles 5.

GOVERNOR'S CONFERENCE ON TRAFFIC SAFETY, Medical Division, Sacramento. October 8 and 9. *Contact:* Irma West, M.D., State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

CALIFORNIA LEAGUE FOR NURSING Annual Meeting, October 8 through October 10, U. S. Grant Hotel, San Diego. *Contact:* Ruth I. Jorgensen, general director, Room 202, 465 Post St., San Francisco 2.

CALIFORNIA ACADEMY OF GENERAL PRACTICE 11th Annual Scientific Assembly, October 11 through 14, 9:00 a.m. to 5:00 p.m., Hotel Statler, Los Angeles. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, St. Jude Hospital, Fullerton, October 29 and 30. *Contact:* B. L. Tesman, M.D., chairman, 1431 Fullerton Rd., Fullerton.

NOVEMBER MEETINGS

SAN DIEGO COUNTY HOSPITAL 13th Annual Postgraduate Assembly. November 4 and 5, 8:00 a.m., San Diego County Hospital. *Contact:* W. T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Ave., San Diego 3.

PACIFIC COAST FERTILITY SOCIETY 8th Annual Meeting. November 12 through 15, Las Vegas, Nevada. *Contact:* Anah Wineberg, M.D., secretary, 3120 Webster Street, Oakland.

CALIFORNIA SANATORIUM ASSOCIATION Annual Meeting. November 14, 9:00 a.m., Santa Clara County Hospital, San Jose. *Contact:* Morton R. Manson, M.D., director, Thoracic Service, Santa Clara County Hospital, San Jose.

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lectureship Dinner. November 20, Biltmore Hotel, Los Angeles. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State Street, Los Angeles 33.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach. December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

1960 MEETINGS

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7. Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

PAN AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11. Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 20 through 22, Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.

INFORMATION

GP Resolution on Hospital Privileges

THE FOLLOWING RESOLUTION was adopted by the San Francisco Academy of General Practice and the General Practice Section of the San Francisco Medical Society at a joint meeting June 25, 1959:

WHEREAS, The primary purpose of hospitals is to afford to patients the best possible medical care; and

WHEREAS, To achieve this primary purpose, governing bodies of hospitals traditionally have extended hospital privileges to physicians on the basis of individual character, competence, experience and judgment; and

WHEREAS, It is well known that competence, experience and judgment in the various fields of Medicine have been and are attained without certification, fellowship or membership in a specialty body or society; and

WHEREAS, The principles above set forth have been explicitly re-affirmed by the Joint Commission on Accreditation of Hospitals, therefore be it

Resolved, That The San Francisco Academy of General Practice and The General Practice Section of the San Francisco Medical Society unequivocally endorse the criteria above set forth for the granting of hospital privileges to physicians; and be it further

Resolved, That all hospitals in San Francisco, as a matter of principle and policy, should be guided by the criteria above set forth in granting hospital privileges to physicians; and be it further

Resolved, That certification, fellowship or membership in a specialty body or society is not exclusive and prima-facie evidence of competence, experience and judgment, and that such qualities can and do exist in physicians without such affiliations; and be it further

Resolved, That The San Francisco Academy of General Practice and The General Practice Section of the San Francisco Medical Society, in view of the principles above set forth, are unalterably opposed to the denial or restriction of hospital privileges to a physician on the basis of his being in General Practice.

Two School Health Conferences Set

TWO TWO-DAY CONFERENCES for California physicians and school administrative personnel on school health problems, one to be held in Riverside and the other in Berkeley, are planned for October under the sponsorship of the California Medical Association Committee on School Health.

The Riverside meeting is scheduled for October 2 and 3 at the Mission Inn and the Berkeley meeting October 23 and 24 at the Claremont Hotel.

Programs of formal presentations on assigned subjects by physicians and education department personnel are being formulated; and in addition there will be discussion groups, each with a recorder, that will serve as a sounding board for school health problems and ideas as to their solution.

The meetings are open to all physicians, in particular those who are members of school health committees of county medical societies or other local organizations dealing with the subject.

At the end of the first day of both meetings, CMA is to be host at banquets to which all registrants are invited.





THE PHYSICIAN'S *Bookshelf*

CORRECTION: In the review of *Therapeutic Radiology* by William T. Moss, M.D., that appeared on page 56 of the July issue of CALIFORNIA MEDICINE, the second sentence of the fifth paragraph should have read: The author appears to favor the Curie Foundation current program of about 5,000 rads in six weeks. The figure 500 rads was in error.

THE ANATOMY OF THE NERVOUS SYSTEM—Tenth Edition—Its Development and Function—Stephen Walter Ranson, M.D., Ph.D., Late Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago. Revised by Sam Lillard Clark, M.D., Ph.D., Professor and Chairman of the Department of Anatomy, The Vanderbilt University School of Medicine, Nashville. W. B. Saunders Company, Philadelphia, 1959. 622 pages, \$9.50.

Through successive editions this classic textbook of neuroanatomy has been kept abreast of the times to a very satisfactory extent. Also, it has followed the modern trend for anatomists to become more and more physiologically oriented, so that the present edition contains much more information of dynamic functioning of the nervous system than was present in early editions. This willingness to move with changing orientation to anatomical studies has made the book of continuing value. As always, illustrations are well chosen and clearly reproduced, and schematic diagrams are clear and not cluttered with such a mass of pathways and legends as to confuse rather than enlighten. The book remains the standard textbook of neuroanatomy for students of medicine.

HENRY NEWMAN, M.D.

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VIRAL AND RICKETTSIAL INFECTIONS OF MAN—Third Edition—Edited by Thomas M. Rivers, M.D., Member Emeritus, The Rockefeller Institute; Vice-President, Medical Affairs, The National Foundation; and Frank L. Horsfall, Jr., M.D., Vice-President for Clinical Studies, Physician-in-Chief to the Hospital, The Rockefeller Institute. J. B. Lippincott Company, Philadelphia, 1959. 967 pages, 134 illustrations, \$8.50.

The rapid development of information in regard to viral and rickettsial disease in human beings has accumulated so rapidly since the second edition of this book was printed in 1952 that an additional 250 pages, 7 chapters, and one editor have been required. The simple listing of the bibliographic index has increased from 15 to 23 pages.

The fundamentals of the relationship of the virus and the host are discussed in three new chapters and disease caused by the new groups of adeno- and echoviruses in two others. Many of the others that were present in the previous edition have been completely rewritten and this is, in effect, a new textbook.

This book was designed to provide comprehensive information about viral and rickettsial infections for graduate students in biology, including those preparing for a career in medicine. It is eminently suitable for this purpose. It is also a fascinating storehouse of information for the practicing

physician. Clinical and epidemiological descriptions of the various diseases are such that every doctor may read them with profit. This book is very highly recommended.

* * *

PSYCHOENDOCRINOLOGY—Edited by Max Reiss, M.D., D.Sc., Neuroendocrine Research Unit, Willowbrook State School, Staten Island, N. Y. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y., 1958. 208 pages, \$7.00.

This book consists of 16 separate contributions by a variety of authors designed to correlate recent advances in knowledge regarding endocrine function with psychopathology. The lead article by Reiss reviews some of the early misconceptions regarding the role of endocrines in human behavior and the disappointments which inevitably followed their indiscriminate use as primary therapeutic agents in mental and emotional disorders. He points out that recent studies have revealed a greater variability in endocrine function in schizophrenics than in normals and emphasizes the need for individual study of each case. Identical endocrine disturbance can be accompanied by a wide variety of psychopathological manifestations because of the basic variation in personality patterns. In the presence of both stress and hormonal imbalance, no symptoms may develop if a personality is stable. It is emphasized that disturbed endocrine function is only one of several factors that may contribute to impaired adaptation and breakdown.

Because of the intimate relationship that exists between neuronal activity of the brain and the pituitary (mediated through the hypothalamus), emotional disturbances can influence the entire endocrine system of the body. Specific endocrine disturbances are presumed to have a genetic basis.

Cases of mental illness associated with hypothyroidism are described in which dramatic recovery followed the administration of thyroid medication. It is suggested that negative results described by others were the result of treating heterogeneous groups of patients with thyroid medication rather than just those with proved hypothyroidism. Failure to improve patients with psychotherapy is believed at times to be the result of some unrecognized and untreated endocrine abnormality. In other articles, it is pointed out, that endocrine unbalance may exist in the absence of any clinically manifest signs and can be detected only by careful systematic investigation and that endocrine disturbances are frequently present in juvenile and many other types of emotional disorders.

In general, the book provides an excellent summary of current thinking of those who are studying psycho-endocrine interrelationships. However, in evaluating the dramatic results which are attributed to endocrine treatment, it is important to remember that many subtle forces operate in any kind of treatment of patients with emotional disorders and there is need for caution and conservatism in evaluating the results of any kind of treatment.

NORMAN Q. BRILL, M.D.

LIPIDOSES—Diseases of the Intracellular Lipid Metabolism—Third Edition, Revised and Enlarged—Siegfried J. Thannhauser, M.D., Ph.D.; Hon. M.D., Universities of Freiburg, Munich, Dusseldorf; Clinical Professor of Medicine Emeritus, Tufts College Medical School, Boston; Consulting Physician, Pratt Diagnostic Hospital, New England Medical Center, Boston; Formerly Professor of Medicine and Chief of University Hospital, Freiburg. Grune & Stratton, New York, 1958. 600 pages, \$19.75.

This is the third edition of Thannhauser's famous book on Intracellular Lipid Metabolism. It is a highly detailed and exhaustive account of the subject and each chapter is followed by a most extensive bibliography. Thannhauser was one of the first to appreciate the importance of diseases of Lipid Metabolism and the book is an authoritative account by a master in the field. Eight years have elapsed since the second edition and Thannhauser has carefully reviewed and supplemented the old edition by the wealth of new contributions. The chapter on the chemistry of lipids has been considerably extended and there is now considerable discussion of Familial Hyperlipemia. The literature on the chemistry and clinical findings of Gaucher's Disease and Niemann-Pick's Disease is critically evaluated and clinical descriptions are added. The motif of Thannhauser's new edition is quite apt in which he states "rare metabolic disorders provide a peep-hole into the workings of nature!"

The format of the book is divided into five parts: The physiology and chemistry of Lipid Metabolism, Hyperlipemia, Xanthomatosis, Gaucher's Disease, and Niemann-Pick's Disease. There is also a supplement on Infantile Amaurotic Idiocy and Gargoylism. In the various chapters an attempt is made to integrate clinical cases with pathological findings and biochemical abnormalities. Well over a hundred illustrations clarify the material and add to a rounded discussion.

In looking over the literature it is quite striking that Thannhauser's publications on cholesterol date in the mid twenties: His original discussion of Xanthomatosis diseases in 1938, his early monograph on Lipidoses from 1940, and so the current volume 1958 extends his continuing interest in this important field of diseases well over a span of thirty years.

This book can be highly recommended as an authoritative account of a most important group of diseases by one of the leaders and early authorities in the field.

MAURICE SOKOLOW, M.D.

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THE PHYSICIAN AND GROUP PRACTICE—Edited by Edwin P. Jordan, M.D., Executive Director American Association of Medical Clinics, Charlottesville, Virginia. The Year Book Publishers, Inc., 200 E. Illinois St., Chicago, Illinois, 1958. 238 pages, \$6.75.

Within a few years many physicians will be practicing in some sort of group. The authors and publishers of this book have performed a useful service by bringing together much practical information about group practice in a handy small book.

The principal types of groups and the various commonly employed internal structures are described. In addition, considerable attention is paid to the problems of management and the distribution of income. At no place in the book is there any organized discussion of the problems—professional, emotional, and financial—which may arise during the operation of a group. This would seem to be a most serious omission.

This book will be of greatest value and interest to the young physician who is about to enter practice. He will surely be considering group practice and valuable background information is available here in capsule form which

will permit him to make his decisions more securely. It will be of less assistance to those who either wish to organize a group or to obtain assistance in regard to problems that have arisen in an existing organization. The essays lack detail and are insufficiently critical and frank to be of help under the latter circumstances.

* * *

CARDIOVASCULAR SOUND—In Health and Disease—Victor A. McKusick, M.D., Associate Professor of Medicine, The Johns Hopkins University School of Medicine; Physician, The Johns Hopkins Hospital. The Williams & Wilkins Company, Baltimore 2, Maryland, 1958. 570 pages, \$15.00.

This book is a monumental contribution to the subject and attempts to be encyclopedic in scope. It is a comprehensive treatise introduced by historical survey and illustrated mainly by sound spectograms which the author calls "spectral phonocardiograms" and supplemented by an extensive bibliography. The historical survey is one of the most complete of which this reviewer is aware and by itself is a noteworthy contribution to the subject. The discussion of the nature of sound and the technical material is extremely well presented and shows real competence in electronics.

After tracing the historical background of cardiovascular sound and the means of detecting it Dr. McKusick concentrates exclusively on the new method of spectral phonocardiography. This method takes as its premise that a particular cardiac disorder will produce a distinctive sound. The spectral phonocardiograph records the frequency or combination of frequencies of a particular sound and plots it against time. The many illustrations in the text are instructive but do not convince the reviewer that Dr. McKusick has proved that spectral phonocardiograms are superior to ordinary phonocardiograms. It is true that the spectral phonocardiogram defines the precise frequency of each sound, but the background disturbance and the duration of the sounds are not as clearly defined.

Dr. McKusick makes the assumption that the method of spectral phonocardiography is easily available and is well on its way to becoming a routine clinical tool. However a section on the technical appendix page 499, paragraph 2, more accurately states the present stage of development of the spectral phonocardiograph, quote, "one unified, easily operated, let alone commercially feasible, instrument has not yet evolved." This statement would seem to evaluate the present method in contradistinction to the main body of the text. It further excludes its use as a routine clinical tool although it in no way limits its use as a valuable research tool. Furthermore, a discussion of normal heart sounds presented by spectral phonocardiograms was not included in the book.

One criticism that the practicing physician will find is that the book is so encyclopedic in scope that it is somewhat difficult to find individual items and their clinical significance. For example, in the discussion on aortic stenosis the clinical significance of the presence or absence of the ejection systolic click, the intensity of the aortic second sound and the duration and intensity of the systolic murmur are not clearly defined. These may be considered minor criticisms because after one becomes familiar with the book one finds a fabulous array of information. The book is very extensively illustrated, there being 494 figures, the bibliography is likewise extensive, there being 1607 references.

This is a most notable piece of work and the author is to be congratulated on it. It is indeed unfortunate that he did not include ordinary phonocardiograms so that the reader could decide for himself which was more helpful to him.

MAURICE SOKOLOW, M.D.

MEDULLOBLASTOMA—Benjamin L. Crue, Jr., Lt. Cmdr., MC, USN, Neurosurgical Service U. S. Naval Hospital, San Diego, California. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1958. 206 pages, \$5.75.

Although at first glance one might be of the impression that a monograph dealing with a single neoplasm of the relative rarity of medulloblastoma would be of interest only to the neurologist and neurosurgeon, this book presents this condition against a background of neoplasia in general in an interesting and informative manner. It can thus be read with profit by all physicians. In addition, it forms an authoritative source for detailed knowledge of the brain tumor which gives it its title.

HENRY NEWMAN, M.D.

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PRACTICAL DERMATOLOGY—Second Edition—George M. Lewis, M.D., F.A.C.P., Professor of Clinical Medicine (Dermatology), Cornell University Medical College; Attending Dermatologist, The New York Hospital. W. B. Saunders Company, Philadelphia, 1959. 363 pages, \$8.00.

The second edition of "Practical Dermatology" by George Lewis has been increased to 350 pages. It deals thoroughly with the common dermatoses and emphasizes, as in the first edition, differential diagnoses.

Dr. Lewis is an experienced teacher, and a lucid writer, and he has sensed the need of those who are interested in dermatology but who are not specialists in it. This is a highly useful book for the general doctor and is recommended reading for the medical students. Of extreme practical value to the practicing doctor is a dermatologic formulary. In 17 pages, Lewis has listed and described almost all of the drugs useful in the treatment of the common skin lesions.

This book is to be recommended for its clarity, its accuracy and its usefulness as a quick source of reference.

EUGENE M. FARBER, M.D.

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GENERAL UROLOGY—Second Edition—Donald R. Smith, M.D., Clinical Professor of Urology and Chairman of the Department of Urology, University of California School of Medicine, San Francisco; Consulting Urologist, San Francisco Hospital, Consulting Surgeon (Urology), Veterans Hospital, San Francisco; Chief of the Department of Urology, St. Luke's Hospital, San Francisco. Lange Medical Publications, Los Altos, 1959. 328 pages, \$4.50.

This excellent small textbook of basic urology by the chairman of the department of urology of the University of California Medical School is the revised second edition of a volume which first appeared only two years ago. This early revision, together with the announcement of a Spanish edition as well, is a good recommendation for the quality of the book.

It is not intended to be an exhaustive treatise on urology, but is designed primarily for the student and general practitioner. It is, however, somewhat more complete than some similar texts in the same field produced in the last few years, and it contains much useful material. The presentation is unusually good, the writing is concise and accurate, and the book is well outlined and easy to read. The new edition contains some changes, mostly concerning newer developments, but the over-all size is unchanged.

The volume appears again in the same form as in the first edition. It is lithographed, rather than printed, and the type is small, though clear and reasonably easy to read. The paper is somewhat less than usual book quality, which detracts a little from the quality of reproduction of the illustrations. However, these are improved in this edition, are well selected and entirely adequate. The binding of heavy

paper gives the book a rather semi-permanent form, suitable especially for the student or the occasional reader. This is presumably an effort to reduce the expense of production, a worthy ambition in these days of ever-increasing costs.

For the student or the physician looking for a clear condensed exposition of the fundamental principles and problems of urology, this will be an excellent guide. Indeed it is somewhat more than this, for it contains numerous important points valuable in the diagnosis and treatment of genito-urinary disorders. It also includes a brief discussion of practically the whole field, including some conditions usually known only to the specialist. An interesting final chapter is on psychosomatic urologic syndromes. Any doctor can easily afford the book and it is highly recommended.

LYLE G. CRAIG, M.D.

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LESIONS OF THE LOWER BOWEL—Raymond J. Jackman, M.D., M.S. in Proctology, Section of Proctology, Mayo Clinic, and Associate Professor of Proctology, Mayo Foundation, Graduate School University of Minnesota, Rochester, Minnesota. Charles C. Thomas, Publisher, Springfield, Illinois, 1959. 347 pages, \$15.00.

This new volume presents a fresh approach to the task of diagnosis of lesions of the lower bowel. It is an exceptionally complete and well integrated correlation of diagnostic and clinical features, employing color photographs and concise text. The wealth of material available to the author makes for completeness and long experience in teaching graduate students in the field of proctology makes for conciseness. The author not only presents the subject matter from an objective standpoint but frequently introduces his personal viewpoints and experience into the discussion. Emphasis throughout is upon diagnosis. Treatment is merely touched upon. A color atlas in the center of the book provides 75 endoscopic views of common and rare lesions ranging from chronic ulcerative colitis in its various stages to inverted diverticulum and pneumatosis cystoides intestinalis. Abundant drawings depict various techniques, intramural and extrinsic lesions.

This is primarily a picture book, but several chapters of the text deserve special mention. The sections on intramural tumors and extrinsic invasions of the lower bowel are good. The differential diagnosis of retrorectal, rectovesical, extrarectal masses and lesions of the cul-de-sac is well done. A chapter is devoted to unusual presacral or retrorectal tumors with an analysis of the type and differential diagnosis. The use of the Silverman needle for transrectal biopsy of intramural and extrinsic lesions is discussed with indications and precautions. This is a valuable and simple diagnostic aid where properly used and deserves added recognition. A short chapter about granulomas of the rectum groups the granulomata together regardless of etiology for purposes of differential diagnosis. An interesting discussion devoted to the nonsurgical management of anal incontinence will be of value to the surgeon. A timely discussion of the physiology of the large bowel by Dr. J. R. Hill summarizes the literature on this neglected subject.

The book, excellent as it is, could be improved if more pictures and text were devoted to malformations of the rectum with associated fistulas and other aspects of pediatric proctology. Chapter headings should be carried at the top of each page for easier reference.

This volume is outstanding because of its fresh approach, abundant endoscopic color photographs and completeness. The type throughout is very legible. Text and captions are clear, concise and informative. It is authoritative and will provide ready reference and stimulating knowledge to every physician concerned with diagnosis of lesions of the lower bowel.

M. D. REDDING, M.D.

ANTIBIOTICS ANNUAL—1958-1959—Edited by Henry Welch, Ph.D., and Felix Marti-Ibanez, M.D. Medical Encyclopedia, Inc., 30 East 60th Street, New York 22, N. Y., 1959. 1107 pages, \$12.00.

The papers of the Annual Antibiotics Conference which is held in Washington in the fall appear each year in a fat book of which this is the most recent. Many observers believe that the sponsors of this meeting exercise no critique whatever in the selection of material to be presented before the conference. Inspection of these reports confirms this point of view. A considerable number of the papers are exceedingly trivial and uncritical. A few offer significant observations bearing on either fundamental or practical aspects of antimicrobial therapy.

Every specialist in the field of infectious disease must have these Antibiotic Annuals at hand. An unsatisfying yearly chore is the winnowing of the small amount of wheat from the immense amount of chaff. This task requires expert knowledge. The practicing physician should shun these books lest he acquire more misinformation than useful new knowledge.

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REHABILITATION IN INDUSTRY—Donald A. Covalt, M.D., Professor, Department of Physical Medicine and Rehabilitation, New York University College of Medicine; Associate Director, Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center. Grune & Stratton, Inc., New York, N. Y., 1958. 154 pages, \$6.00.

This book consists of eleven chapters, each chapter is written by a different author or authors. The book is edited by Donald A. Covalt, M.D., with a foreword by Howard A. Rusk, M.D. The authors discuss such subjects as rehabilitation in peripheral vascular disease, soft tissue injury, fracture rehabilitation, amputations, peripheral nerve lesions, management of patients with spinal cord injuries, head injuries, back injuries, industrial hand injuries, and a final chapter on vocational placement of disabled workers.

The book is of particular interest to those in the field of rehabilitation which would include physical therapists, occupational therapists, social workers, vocational counselors, and psychiatrists.

W. H. NORTHWAY, M.D.

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SURGERY OF THE PROSTATE—Henry M. Weyrauch, M.D., F.A.C.S., Clinical Professor of Surgery (Urology); Chief, Division of Urology, Stanford University School of Medicine. W. B. Saunders Company, Philadelphia, 1959. 535 pages, \$15.00.

This volume is written by the chief of the division of urology of the Stanford University School of Medicine on what has been for years one of the most controversial subjects in urology. It is a tremendously complete and valuable work, and a must for every urological surgeon. Nothing approaching it in scope and in detail has previously appeared.

It is an exhaustive consideration of the entire subject. There are introductory chapters on the history of the several operations and on the anatomy and pathology of the prostate. This is followed by discussions of the diagnosis, the indications for operation and the choice of procedure, the preparation of the patient, and the selection of the anesthetic. Following the chapters on the technique of the various operations, the longest chapter in the book is on "Post-operative Care and the Treatment of Complications." This is a gem.

The author's exposition of the different approaches to the prostate and types of procedure is singularly free from any apparent prejudice, and he gives the advantages and disadvantages of each operation with equal clarity and candor. This is admirable, in view of the fact that for so many

years such acrimonious arguments have arisen between the exponents of the different operations. Even recent publications nearly always show a prejudice, sometimes even unconscious, for the method which the author has found most satisfactory in his own hands.

The technique of the different operations on the prostate, with numerous variations, is described in meticulous detail, emphasizing those features which the author feels may mark the difference between success and failure, between a placid or stormy convalescence. Some of these pearls may be valuable suggestions even to the most experienced prostatic surgeon. While the captious critic may consider some of them unnecessary or even ill-advised, they are all worthy of thought, even by the surgeon whose experience leads him to prefer to make his own decisions.

While primarily of interest to the man actively concerned with the surgery of the prostate personally, the book contains so much fundamental information, and is so well presented, that it should be available also to students, interns, and physicians, all of whom can get from it a much needed breadth of understanding of the problems of prostatism. It is a wonderfully fine book.

LYLE G. CRAIG, M.D.

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TEXTBOOK OF SURGERY—Third Edition—Edited by H. Fred Moseley, M.A., D.M., M.Ch. (Oxon.), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S. (C); Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada The C. V. Mosby Company, St. Louis, Missouri, 1959. 1336 pages, \$17.00.

This is the third edition of Moseley's Textbook of Surgery. The textbook has the unique feature of being illustrated with the drawings by Dr. Netter.

Dr. Moseley has in effect edited the book and it consists of 43 chapters by 20 or more different authors.

This book is a student textbook of surgery. It will also be valuable to general practitioners. It is not a book for specialists. The material is carefully integrated and selected. An effort has been made to include the rapidly advancing specialties of surgery and to bring the reader up-to-date in the fields of chemotherapy, anticoagulants and improved surgical techniques in the cardiac and pulmonary fields. Pediatric surgery is included. Sections on urology, endocrine surgery and orthopedics are also good for a general surgical textbook.

The book is smaller than Allen's textbook or Christopher's textbook and is somewhat simpler to read and follow. The drawings are beautifully done and it is a simpler text for the student than either of the other two. However, the amount of information contained within it is not nearly as complete as in the other two textbooks of surgery.

It is recommended for the student who wants to rapidly get a general surgical knowledge and background without feeling that he will progress into a surgical specialty in his residency years. It is also recommended for general practitioners.

VICTOR RICHARDS, M.D.

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PRINCIPLES OF INTERNAL MEDICINE—Third Edition—Editors: T. R. Harrison, Raymond D. Adams, Ivan L. Bennett, Jr., William H. Resnik, George W. Thorn, M. M. Wintrobe. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1958. 1782 pages, plus 57 pages of index, \$18.50.

The publication of the first edition of this massive Principles of Internal Medicine in 1950 marked a milestone in medical textbooks. It attempted, and in considerable degree succeeded in applying the basic sciences to clinical medicine in the same fashion that they are taught to the

present-day student between his second and fourth years of medical school.

The present volume continues with the same general arrangement. After an introductory Approach to the Patient, there follow: II. Cardinal Manifestations of Disease. III. Biological Considerations. IV. Metabolic and Endocrine Disorders. V. Disorders Due to Chemical and Physical Agents. VI. Diseases Due to Biological Agents. VII. Diseases Associated with Reactions to Stress and to Antigenic Substances. VIII. Diseases of Organ Systems. IX. Care of the Patient.

For the third edition the book has been reset completely. In Part II, Cardinal Manifestations of Disease, the section dealing with disorders of cardiac and pulmonary function has been rewritten; the section on Disorders of Nervous Function has been expanded. Part III, on Biological Considerations, includes topics considered under Physiological Considerations in the first edition. Extensive revision has also been carried out in the parts dealing with specific disorders. There are new chapters on heritable disorders of connective tissue and on dermatology. The organization of the remainder of the book is not materially changed except that general and special problems dealing with the care of the patient have been placed at the end, just ahead of the appendix of normal laboratory values.

If there is one weakness in this book, it is in the consideration of therapy. In general, treatment is discussed in broad terms in relation to etiological and biological consideration. Sometimes specific measures such as pharmacotherapy are spelled out and sometimes they are not.

The 1800 pages of this volume are loaded with modern medical information. There is a complete index. Short bibliographies are found at the end of each subject. Few books can be recommended without hesitation for the library of every physician and student, but this is one.

EDGAR WAYBURN, M.D.

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MANUAL OF DIFFERENTIAL DIAGNOSIS—William C. Matousek, M.D., Chief, Medical Service, Veterans Administration Hospital, Miles City, Montana. The Year Book Publishers, Inc., 200 E. Illinois St., Chicago, 11, 1959. 352 pages, \$8.00.

This is a small volume of 352 pages. In it are discussed the differential diagnoses of some 74 symptom-sign complexes. At the beginning of each discussion the contents are epitomized in a clearly outlined list of the syndromes to be taken up. The references given are few but authoritative.

This book is on a practical, clinical, superficial level. It can aid the student as a quick, ready on-the-spot reference. For deeper analysis, he must look farther.

EDGAR WAYBURN, M.D.

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INVESTIGATION OF THE RELATIVE FUNCTION OF THE RIGHT AND LEFT LUNG BY BRONCHOSPIROMETRY, THE—Technique, Physiology and Application—Frank Bergan, M.D., Staff Surgeon Oslo City Hospitals, Surg. Dept. III Ullevaal. Lecturer in Clinical Surgery, University of Oslo. Grune & Stratton, New York, 1958. 145 pages, \$4.50.

This is as fine a treatise on bronchspirometry as the reviewer has seen. Beginning with the concise history of the development of bronchspirometry, Dr. Bergan follows with a detailed and careful description of the technique in use at Unit III of Ullevaal Hospital and concludes with a discussion of the value and uses of the method in various diagnostic and treatment problems. He is a surgeon, and his viewpoint is primarily clinical rather than academic. He says:

"The purely clinical method of judging the total and partial function of each lung is not to be underestimated. The case history, x-ray examinations with a series of films show-

ing the development of the disease, movement of the diaphragm and the ribs, and clinical assessment of the patient's reaction to a work-load, give a valuable basis for judgment and must never be neglected. Clinical judgment will be more certain when it can be checked by technical investigations which give reliable results."

The practical problems encountered in using the method of bronchspirometry, together with the necessity for a careful technique and for a complete mucosal anesthesia, are emphasized. While most of the 300-odd patients whose examinations form the basis for this treatise, are suffering from tuberculosis, and there appears to be some bias in favor of the Semb thoracoplasty as a method of treatment, these facts do not in the least detract from the value of the book. It is recommended to all who are interested in using bronchspirometry as a method of clinical investigation and makes thought-provoking reading for the thoracic surgeon.

JOSEPH L. ROBINSON, M.D.

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HISTORY OF OPHTHALMOLOGY, A (MD Monographs on Medical History, Number Three)—George E. Arrington, Jr., M.D., Associate in Ophthalmology, Medical College of Virginia; Attending Ophthalmologist, Medical College of Virginia Hospital; Richmond Eye Hospital, Retreat for the Sick Hospital, and the Richmond Memorial Hospital of Richmond, Richmond, Virginia. Foreword by Felix Marti-Ibanez, M.D., Professor and Director of the Department of the History of Medicine, New York Medical College, Flower & Fifth Avenue Hospitals. MD Publications, Inc., 30 East 60th Street, New York 22, N. Y., 1959. 174 pages, \$4.00.

This book is well written beginning with ophthalmology at the dawn of history and the influence of the various civilizations and their spokesmen, ending with our present-day concepts.

The average ophthalmologist has very little knowledge of the development of this specialty which seemed to begin with the Code of Hammurabi in 1900 B.C.

This book provides an informative, but unusual approach to ophthalmology and should be read to gain a broad view of the specialty.

ALFRED R. ROBBINS, M.D.

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DIAGNOSTIC ANATOMY—Weston D. Gardner, M.D., Associate Professor of Anatomy, Marquette University School of Medicine; Director of Medical Education, Evangelical Deaconess Hospital, Milwaukee, Wisconsin. The C. V. Mosby Co., 1958. 376 pages, \$10.00.

Anatomy is one of the first subjects studied in detail by the medical student, and consequently one of the first relegated to memory's limbo. It is recalled to all in the course in physical diagnosis and becomes an integral part of the knowledge of doctors who study surgery, pathology or radiology. But the great body of information which must be gathered by all students of medicine tends to submerge and obscure the facts about normal human morphology.

This book is written for the nonsurgical practitioner. Its objective is to correlate the physical examination of the patient with the anatomic features of the body. To this end it is an applied anatomy which uses the terminology of the physician rather than that of the pure anatomist. There are 20 diagrammatic drawings, done by the author, which illustrate rather strikingly different features of applied anatomy.

Dr. Gardner has done a good job of correlating basic anatomy with the everyday physical examination. His book can be useful for the clinician's review or reference and equally valuable to the teacher or student in physical diagnosis.

EDGAR WAYBURN, M.D.

READINGS IN PSYCHOANALYTIC PSYCHOLOGY—Edited by Morton Levitt, Ph.D., Associate Professor of Psychiatry and Assistant Dean, Wayne State University College of Medicine, Detroit, Michigan. Appleton-Century-Crofts, Inc., New York, 1959. 413 pages, \$8.50.

In this remarkably rich volume, the author has collected a series of papers and essays covering many facets of psychoanalysis as a theoretical system, as a technical approach, and as a scientific and philosophical force in our society.

The contributors to this book are literally a "Who's Who" of psychoanalysis, each writing on an aspect of the field in which he has made significant contributions. The volume ranges from the metapsychology of infantile sexuality by an outstanding child psychoanalyst to the relationship between Freud and literature by Professor Lionel Trilling, one of the country's foremost literary critics. Some of the contributions have appeared previously in the psychiatric and psychoanalytic literature, and others are original essays. Additional dividends available from this valuable book are the excellent collections of bibliography at the end of each contribution.

These "Readings" will be of inestimable value to the serious student of behavioral sciences who may wish a comprehensive review of psychoanalysis, although one could hardly consider this a truly introductory volume. It most certainly belongs on the bookshelf of every psychiatrist, and will be found very helpful to the physician in psychoanalytic training. Since most of the authors seem to have written with the assumption of some psychoanalytic knowledge on the part of their readers, it would seem doubtful that the nonspecialist in psychiatry would find the volume useful. Those physicians who have participated in the recent reawakening of interest in the philosophy of science, however, would find much stimulation in some of these essays.

H. R. BRICKMAN, M.D.

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TREATMENT OF DIABETES MELLITUS—Tenth Edition, Revised, Illustrated—Elliot P. Joslin, M.D., Howard Root, M.D., Priscilla White, M.D., and Alexander Marble, M.D. Lea & Febiger, Philadelphia, 1959. 798 pages, \$16.50.

In 1916 at the age of 47 Dr. Joslin wrote the first edition of *Treatment of Diabetes Mellitus*. Now, some 43 years later, his masterpiece is in its tenth edition and despite the help of three co-authors and seven other contributors, still the most entertaining portions are those written by the original author.

This is truly an encyclopedia of diabetes and in its 798 pages, and many thousand references, the subject is covered thoroughly. For instance, nocturnal diarrhea is well covered and the incidence of diabetes among the Eskimos of the far north occupies one full page. The experience of the Joslin Group in their chosen field is indeed fantastic; some 52,560 patients treated, 1,700 pregnant diabetics, over 3,000 patients treated with oral hypoglycemic agents, and over 18,000 deaths. It is difficult for any individual, even with a wide experience in diabetes, to feel competent to contradict conclusions drawn from such imposing figures.

Nevertheless I think there are certain criticisms of the book which are justified. (1) Despite its title the average doctor will have difficulty in obtaining information on how actually to treat the patient as he presents himself either in the office or hospital. The information is there all right but it is a little hard to obtain a clear, concise picture of proper treatment. (2) Careful editing could, I am sure, have shortened the book and still retained its comprehensive coverage. There is considerable duplication in different chapters by different authors. The descriptions of diseases occurring as independent complications of diabetes seem

unduly long, pernicious anemia, for instance, requiring five pages. It seems a little incongruous that all the various diseases that can complicate diabetes are covered by two men when the problems peculiar to diabetes necessitate the effort of eleven men.

Finally besides recommending this edition for encyclopedic coverage, I feel that the chapters written by Dr. Joslin himself give a very good insight into the problems of diabetes as he has seen them for some sixty years and are well worth reading in themselves.

G. B. ROBSON, M.D.

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ATLAS OF NORMAL RADIOGRAPHIC ANATOMY—Second Edition—Isadore Meschan, M.A., M.D., Professor and Director, Department of Radiology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina; Consultant, Walter Reed Army Medical Center, Washington, D. C.; Formerly Professor and Head of the Department of Radiology, University of Arkansas School of Medicine. With the assistance of R. M. F. Farrer-Meschan, M.B., B.S. (Melbourne, Australia), M.D., Research Associate, Department of Radiology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina. W. B. Saunders Company, Philadelphia, 1959. 759 pages, \$16.00.

It has been said that the textbook most commonly consulted by radiologists is *Gray's Anatomy*. It is certainly a daily practice in offices and departments of radiology, both diagnostic and therapeutic, to consult various anatomic texts. The present work supplements the standard texts in admirable fashion.

Following chapters dealing with the basic principles of radiography, radiation protection and osseous development, there is a series of chapters dealing with the various regional anatomic parts. Noteworthy is the up-to-date information on the segmental bronchi, in which standard information is supplemented by Lehman and Crellin's excellent drawings. The material on pneumoarthrography and contrast angiography is well presented. Line drawings accompany most of the roentgenographic illustrations. The work is well printed and there is a good index.

L. HENRY GARLAND, M.B.

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SURGERY OF THE SYMPATHETIC NERVOUS SYSTEM—Third Edition—Professor Sir James Paterson Ross, K.C.V.O., LL.D., M.S., F.R.C.S., F.R.A.C.S., F.A.C.S.; Director of the Surgical Professorial Unit, St. Bartholomew's Hospital, London. Williams & Wilkins Company, Baltimore 2, Maryland, 1958. 170 pages, \$8.00.

This book is heartily recommended to those interested in either the indications for, or the technical details of surgery of the sympathetic system.

It is extremely well written and reads more as a novel than a scientific treatise. This edition of the book is timely in appearance since the indications and value of sympathectomy from a clinical standpoint have been somewhat lost sight of in this age of interest in hypotensive drugs, anticoagulants, and vascular surgery. Indications for sympathectomy certainly are not as numerous today because of these newer methods, but I am sure it would be well worth while for every internist to become acquainted with the indications for, and results of these operations, since there are many conditions remaining for which sympathectomy has much to offer the patient.

The chapter on "Sympathectomy for Visceral Pain" should prove of extreme interest to those interested in cardiology. An excellent account is given of the pain pathways associated with angina pectoris, and an interesting account of beneficial pain relief which can be obtained from a sympathetic block or sympathectomy in relief of anginal pain.

C. HUNTER SHELDEN, M.D.

California M E D I C I N E

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Forensic Obstetrics

KEITH P. RUSSELL, M.D., Los Angeles

THE WORD *forensic* is derived from the Latin *forum*, for public place. Since the forum in ancient times was used for public discussion and debate, *forensic* has come to be applied to those matters subject to argument and debate. As used in obstetrics, the term is taken to mean principally "medicolegal" obstetrics; however, the meaning that that which is forensic in nature is subject to discussion should be retained. Although many lawyers and many courts would have us believe that certain rulings and decisions that have been handed down (as they pertain to medicine) are beyond debate, all physicians recognize that much of medical practice in the medicolegal sense is truly forensic in nature. Medicine is not an exact science—it is an art, dynamic and fluid in nature. Hence the law that is concerned with medicine can be no less static.

In recent years the practice of medicine has become increasingly influenced by the medicolegal considerations attendant upon the diagnosis and treatment of disease entities. Every patient seen by every physician carries potential legal action in some form—professional liability, disability evaluation, insurance eligibility and personal liability. It has been observed recently that 80 per cent of all current court actions require some type of medical testimony. The impact of the progressive awareness of these potentialities has altered the face and character of medical practice as it is carried on today.

Among the various social forces that have brought

• Some of the more important and current aspects of forensic obstetrics are, broadly,

1. Fulfillment of basic criteria in all cases of alleged traumatic abortion.

2. Utilization of therapeutic abortion review boards, as well as sterilization committees, in all hospitals, with the active support of such committees by all those physicians interested in advancing the art and practice of obstetrics.

3. Early and active joint study of professional liability problems by combined groups of physicians and lawyers in every community.

about these changes are the following ecologic factors:

1. Widespread lay publicity in recent years regarding medical subjects, surgical procedures and technical advances, as well as premature reports concerning research in progress.

2. Organized legal activity toward making the public aware of the personal and professional liability aspects of medical matters.

3. Increased application of the *res ipsa loquitur* doctrine ("the thing speaks for itself") in medical jurisprudence.

Subsidiary factors have also played a part—for example, an increased "insurance consciousness" on the part of the public, accelerated by the advent of compulsory motor-vehicle liability insurance and related trends.

In addition there has been a gradual deterioration in patient-practitioner relations, coincident with the increasing specialization in medicine which has

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made the very nature of medical practice more impersonal. And finally, the public has all too often mistakenly come to believe in medicine as a rigid discipline, in which exact diagnosis and specific curative therapy can be carried out in every case.

It is the purpose of the present discussion to point out some of the basic *medical* considerations upon which obstetricians and gynecologists must rely in the management of certain problems carrying serious medicolegal implications. These considerations have grown out of knowledge gained in evaluating malpractice claims, both for the plaintiff and for the defendant, in sitting on abortion and sterilization boards and in reviewing studies of the medicolegal aspects of miscarriage, complications of pregnancy, and gynecological injuries to women.

TRAUMATIC ABORTION

Perhaps the disorder of this type with which we are most frequently faced is that associated with traumatic abortion. These problems come to us in four general categories: (1) automobile accidents, (2) emotional shock and psychic trauma, (3) industrial accidents, and (4) miscellaneous groups, such as falls, blows and bodily attack. In all of them the physician is confronted by the consideration and possible claim that such trauma has been the proximate cause of a subsequent abortion, or of a later complication of pregnancy. A typical case recently evaluated may be cited.

The patient was pregnant and had had a previous pregnancy that ended with abortion. The last normal period was April 5, 1958. She had had some spotting in May at the time of her expected period, but not enough to wear a pad. She had also had some nausea. On June 1, 1958, while the patient was sitting in her car waiting for a signal change, her car was struck from behind by another. She was shaken up and frightened and was bruised over the xiphoid process by the steering wheel. She was taken immediately to an emergency hospital, but no fractures were found. She did have some abdominal cramps, however, and was sent home to bed. Four days later she began to bleed moderately heavily. She was seen by her neighborhood physician, who advised dilatation and curettage, which was done in the hospital. The patient's attorney claimed that miscarriage resulted from the automobile accident.

It is obvious that pathological diagnosis of tissue removed is a prerequisite for evaluating such cases. All too frequently it is presumed that pregnancy was present, when in actuality such was never truly determined. Assuming, however, that in such instances the presence of pregnancy has been established, we may be guided in our approach to the medicolegal management of these problems by three basic rules, as modified from Fisher:²

1. The course of pregnancy must have been nor-

mal in all respects before the accident or trauma.

2. The conceptus or abortus must show no evidence of developmental abnormality.

3. Bleeding and abortion must occur within minutes or a few hours after the accident.

Unless all three of these criteria can be fulfilled, there must exist grave doubt in the individual case that accidental trauma has been a causative factor of proximate importance in the occurrence of subsequent abortion or pregnancy complication.

The question of emotional trauma or psychogenic shock is frequently introduced by plaintiffs' attorneys in these cases. The factual obstetrical evidence, as set forth in numerous studies such as those of Hertig and Sheldon,³ Eastman¹ and others, is strongly against the viewpoint that fright or psychic trauma can cause miscarriage. The same criteria cited above must be applied to such claims.

Closely allied to the medicolegal problems of traumatic abortion are those of accidental injuries of a gynecologic nature. The increased employment of women in all phases of industry in recent years has imposed new viewpoints in this field. To properly assess the likelihood of traumatic factors in the production of gynecologic damage, women who have been injured should be examined within 24 hours of the accident. McNeil⁴ rightfully emphasized that when gynecologic injury does occur as a result of accidental factors, there is positive evidence which relates it to the accident if in fact such a relationship exists. The burden of proof must be based upon direct and conclusive findings of tissue damage to the area. In this connection it must be noted that menstrual aberrations are not uncommon sequelae of physical and psychic injury. However, these are transitory and temporary in nature and are not significant unless demonstrable pathologic change can be detected upon pelvic examination.

Finally, the rule of evidence relating to proximate cause must be continually kept in mind in dealing with all cases of traumatic abortion and accidental gynecologic injury. This rule requires that physicians express their opinions on the basis of *reasonable medical probability*, rather than on the basis of possibility or speculation. Testimony of witnesses, expert or otherwise, merely that a described condition is "possible" or "might" exist as consequence of stated cause, does not support the conclusion that such condition exists in fact as result of this cause.

THERAPEUTIC ABORTION AND STERILIZATION

The performance of sterilization or of therapeutic termination of pregnancy has obvious medicolegal implications. The statutes of California, like those of 44 other states, require necessity to preserve the life of the mother as a legal basis for abortion. In

actual practice in this state, it must be noted, the exceptions provided in the statutes are commonly broadened to include preservation of the health of the woman, with tacit recognition that the probability of the delivery of a grossly defective child poses a serious threat to the physical and mental health of a pregnant woman.⁵

The development in recent years of hospital boards for review of therapeutic abortion and sterilization has become an important medicolegal safeguard in the management of these vexing problems.⁶ The sanction offered to such procedures when accredited by a board of from five to seven physicians far outweighs that existing when only one or two consultants are required. Regan^{7b} was unable to find any instance of legal action's being instituted when the review board procedure had been utilized, and was of the opinion that this method was the strongest medicolegal safeguard yet devised in protection of the physician and hospital confronted with problems of therapeutic abortion and sterilization.

The use of such boards would appear to be especially mandatory when dealing with the consideration of therapeutic abortion on fetal grounds, such as those in association with German measles and Rh incompatibility. Here again, basic criteria should be fulfilled before such cases may even be presented to a review board:

1. In the case of rubella—

a. The diagnosis of rubella in the mother must have been made definitely by an internist, pediatrician or public health physician; "exposure" to German measles is insufficient for consideration.

b. The pregnancy must have been of less than ten weeks' duration when the infection occurred.

2. In the case of Rh incompatibility—

a. There must be a history of one or more stillbirths or immediate neonatal deaths due to this condition;

b. The husband must be homozygous.

If information regarding these prerequisites is doubtful or lacking, the case cannot reasonably be considered for possible therapeutic termination of pregnancy.

With regard to sterilization, it should be stressed for forensic reasons that all such procedures carry a small but definite failure rate. In the reported series in the literature, this rate ranges from as little as one-tenth of 1 per cent to as much as 7 per cent or more. In view of these facts, it is important that the physician protect himself by properly worded operative consent forms. A recommended form, as used on our own service, is one which states that the patient "may be rendered sterile" by the procedure. Eastman has offered the same admonition,

utilizing a permission form which refers to the sterilization operation simply as one which "may prevent further pregnancies."¹

OBSTETRICAL MALPRACTICE

Much has been said and written in the past few years on the subject of professional liability. Unfortunately, in the welter of claims, suits and publicized judgments, certain essential facts either have become so clouded as to be unrecognizable or have been completely forgotten. Paramount in this regard is the basic definition of malpractice, which is: "The failure on the part of a physician properly to perform the duty which devolves upon him in his professional relation to his patient, a failure which results in some injury to the patient." Thus, malpractice has *two* essential parts: First, that the physician *fails* to do his duty; second, that definite *injury* to the patient is the result of his failure.⁷ It is to be repeatedly emphasized that there is no professional liability unless the physician's negligence is the proximate cause of injury.

There are certain facts regarding malpractice in general which are of significance to the obstetrician:

1. The specialty of obstetrics-gynecology is exceeded only by those of surgery and orthopedics in the number of suits and claims filed;

2. Specialists are defendants over 50 per cent of the time, although they make up only 44 per cent of the physician population;

3. Sixty-five per cent of claims filed are in connection with surgical procedures, and 70 per cent of the alleged actions have taken place in hospitals;

4. Sixty per cent of the claimants are female and their average age is 35 years;

5. The median time of the occurrence of suits or claims in the practice of the average defendant physician is thirteen and one-half years, indicating that the young graduate just out of training is not necessarily more prone to malpractice actions.

A study of professional liability problems in obstetrics-gynecology, as in other specialties, has indicated that many actions have been filed because of misunderstanding or lack of sound medical advice on the part of plaintiffs' attorneys. In addition it has been suggested that a "conspiracy of silence" on these matters exists among doctors. To combat these twin problems, in many communities panels of experts available for use by plaintiffs' legal advisors are being set up under the aegis of joint committees of medical societies and bar associations.⁸ In the main, such panels have proved successful. My purpose in mentioning them is to urge support of their activities as this operation is expanded in other communities. Only by such support

can the *res ipsa loquitur* doctrine be relegated to its proper minor role in medical jurisprudence in our specialty.

This is not to state that malpractice does not exist in the medical world, for most certainly it does. However, my own experience in sitting on panels such as outlined above has indicated that in nine of every ten cases brought for evaluation, no professional liability existed as defined at the beginning of this discussion. In these situations, when all the facts have been studied, the panel consultant can often avert the filing of a claim or suit against the attending physician.

It would be desirable for our specialty organizations at the national level to be cognizant of these problems, to the extent that joint committees of obstetricians join with bar association representatives in the study of them. In this manner the proper application of basic medical principles as well as legal standards relating to rules of evidence, proximate cause and related doctrines can be brought to the individual physician and attorney in these spheres where each now has only fragmentary knowledge. With approaches such as this we can surely, even if slowly, reduce the role of malpractice forces in the practice of our specialty. Con-

tinued study and review are essential. The law department of the American Medical Association stated it well when it said, "Professional liability . . . is . . . not a legal problem exclusively, but is also a *medical* problem, and one which requires the same intensive study that the profession has devoted to the conquering of disease. . . ."

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California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposiums in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 1, 1959.

Hyperventilation Syndrome

A Clinical and Physiological Evaluation

BERNARD I. LEWIS, M.D., Palo Alto

MOST PHYSICIANS are quite familiar with the isolated attack of acute hyperventilation that is characterized by dramatic overbreathing and classically culminates in tetany. Although terrifying to the patient, and almost equally alarming to any onlooker, these attacks are usually brief and without serious medical sequelae. Recently we have come to recognize a chronic hyperventilation pattern that appears to be far more common, far more disabling but, paradoxically, less well known than the acute variety.^{5,6,7,8} This report will present an analysis of 250 patients with hyperventilation syndromes and will emphasize the clinical characteristics and course of this chronic hyperventilation pattern.

As Table 1 indicates hyperventilation was psychogenic in origin in about 70 per cent of the patients in this series, with almost three times as many women as men falling in this category. There was an organic basis in only 2 per cent of the cases, usually infections and/or intoxications of the central nervous system.^{1,10} In the remaining 28 per cent, designated as "mixed," organic and psychological factors were jointly responsible. In these two latter groups the sexes were about equally involved.

There are symptoms and signs referable to most body systems as a consequence of the diffuse biochemical and physiological changes resulting from overbreathing. The most prominent of the clinical features are listed in Table 2. Out of this welter of alarming bodily sensations the patients usually tend to focus on but a few, most often on symptoms referable to the cardiovascular or nervous system, and become exceedingly fearful that they are experiencing either a "heart attack" or a "stroke." An analysis of the chief or presenting complaints (see Table 1) reveals that over one half of the patients had concentrated on cardiovascular symptoms, and another one fifth on neurological symptoms, to the relative exclusion of the many other bodily changes that had occurred at the same time. Curiously, respiratory symptoms were not particularly prominent although changes in respiratory behavior were usually evident to any observer.

• There is a chronic hyperventilation syndrome which is much more common, of greater medical significance and far more difficult to diagnose than the better-known acute hyperventilation attack. This chronic syndrome tends to mimic grave organic disease with which it frequently is associated or superimposed.

Studies on 250 patients with chronic hyperventilation patterns revealed the rapidity with which biochemical and physiological changes can occur and the characteristics of the resultant symptoms and signs, with particular reference to the heart and lungs.

Once the diagnosis is suspected and appropriately confirmed, it is possible to "cure" over 70 per cent of such patients by means of simple therapeutic measures.

With hyperventilation there is a rapid fall in arterial carbon dioxide tension ($p\text{CO}_2$) and rise in pH and, in turn, a reduction in cerebral blood flow and in the frequency of the brain waves. When the brain waves slow to 5 cycles per second or less some disturbance of conscious awareness usually results, ranging all the way from simple faintness to complete loss of consciousness.³ There is a concurrent increase in neuromuscular irritability, likely related to rapid changes in serum potassium and ionized calcium concentration that are believed to occur with these abrupt shifts in arterial carbon dioxide tension and pH.⁸ These are the factors that underlie the peripheral and circumoral paresthesias so characteristic of this syndrome, and the accompanying muscular tremors, spasms and aches. Occasionally, and presumably as the result of hysterical mechanisms, these peripheral paresthesias and myalgias are asymmetrical and may even be unilateral.^{6,8} These central and peripheral neurological phenomena are extremely alarming to the patient, who fears he is either "losing his mind" or on the verge of a "stroke."

By direct action on the blood vessel wall, the rapid reduction in arterial carbon dioxide tension decreases the peripheral vascular resistance and thus lowers the arterial blood pressure.² This and the associated shift in electrolyte and acid-base balance, bear importantly on the impressive tachycardia, frequent arrhythmia and perplexing electrocardiographic changes that commonly occur with hyper-

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TABLE 1.—Clinical Data on 250 Patients with Hyperventilation Syndrome

Pathogenesis	No. of Patients	Sex		Presenting Syndrome					
		M	F	CV	GI	N	MS	R	Gen
Psychogenic ..	176	49	127	88	8	39	8	11	22
"Mixed"	69	31	38	42	1	10	6	5	5
Organic	5	3	2	....	....	4	1	....	....
Total	250	83	167	130	9	53	15	16	27

CV = Cardiovascular; GI = Gastrointestinal; N = Neurological; MS = Musculoskeletal; R = Respiratory; Gen = General.

ventilation.^{7,8,11} Precordial pain, in the form of recurring sharp twinges or a more prolonged dull discomfort, is another prominent feature of this syndrome and has been correlated on various occasions with the onset of cardiac arrhythmia,⁴ spasm of the diaphragm,¹² prolonged intercostal muscle spasm and gastric distention.⁸

To the patient these symptoms often suggest serious heart disease and, as our experience has indicated, the physician is too frequently misled as well, particularly when confronted by objective changes in the heart rate, rhythm and electrocardiogram.

Patients with the chronic hyperventilation syndrome present clinical pictures of variable duration and intensity which in general may resemble many chronic illnesses. At first glance the clinical features may seem non-specific; often they will suggest a psychogenic process. It is with the "mixed" cases in particular that sins of omission or commission are likely to occur. Too often the total illness is ascribed to *either* the organic *or* the psychogenic component. The inevitable result here is inadequate and improper treatment, usually with prolonged disability and occasionally with more serious consequences.

DIAGNOSTIC CLUES

The course of the chronic hyperventilation pattern tends to be interrupted periodically by recurring acute exacerbations that resemble in many ways the acute syndrome. These acute exacerbations mainly occur during the day and rarely if ever will awaken a person from a sound sleep. Patients may comment at first on nocturnal attacks, but inquiry usually will elicit that symptoms began at times the patient was partially awake such as soon after retiring or just before fully waking in the morning.

These acute exacerbations are not clearly correlated with physical exertion even though, on initial questioning, the patients may so suggest. Close checking will usually reveal that the symptoms began *after* rather than *during* exertion, often at the end of a tiring, tension-filled day.

Another feature, briefly mentioned earlier, is the patient's curious lack of awareness of his overbreathing or, when he is aware of it, his usual

TABLE 2.—Multisystem Involvement in Hyperventilation Mechanisms

1. NEUROLOGICAL:

A. Central:

Disturbances of Consciousness—Faintness, dizziness, unsteadiness, impairment of concentration and memory, feelings of unreality, "losing mind," complete loss of consciousness (infrequent)

B. Peripheral:

Paresthesias: Numbness, tingling and coldness of fingers, face and feet

2. MUSCULOSKELETAL:

Diffuse and/or localized myalgia and arthralgia, tremors and coarse twitching movements, carpedal spasm and generalized tetany (infrequent)

3. RESPIRATORY:

Cough, chronic throat "tickle," shortness of breath, atypical "asthma," tightness in or about the chest, sighing respiration, excessive yawning

4. CARDIOVASCULAR:

Palpitations, "skipped beats," tachycardia, atypical chest pains—sharp precordial twinges, dull precordial or lower costal ache—variable features of vasomotor instability

5. GASTROINTESTINAL:

Oral dryness, globus, dysphagia, left upper quadrant or epigastric distress, aerophagia, belching, bloating and flatulence

6. PSYCHIC:

Variable anxiety, tension and apprehension, inappropriate pseudocalmness (hysterical subjects)

7. GENERAL:

Easy fatigability, generalized weakness, irritability and chronic exhaustion, frightening dreams, sleep disturbances

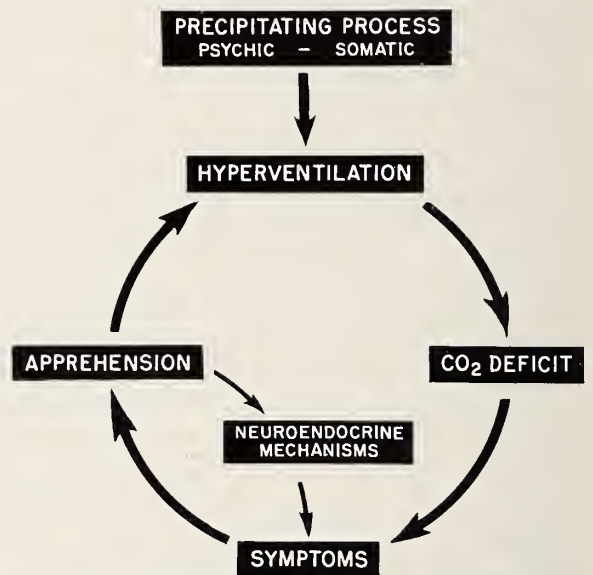


Chart 1.—Sequence of events characterizing hyperventilation syndrome.

insistence that it was a *result* of the attack and did not develop until *after* the episode was well under way. The basis of this belief and a schematic representation of the sequence of events that characterizes the hyperventilation syndrome is presented in Chart 1.

Whatever the nature of the precipitating process,

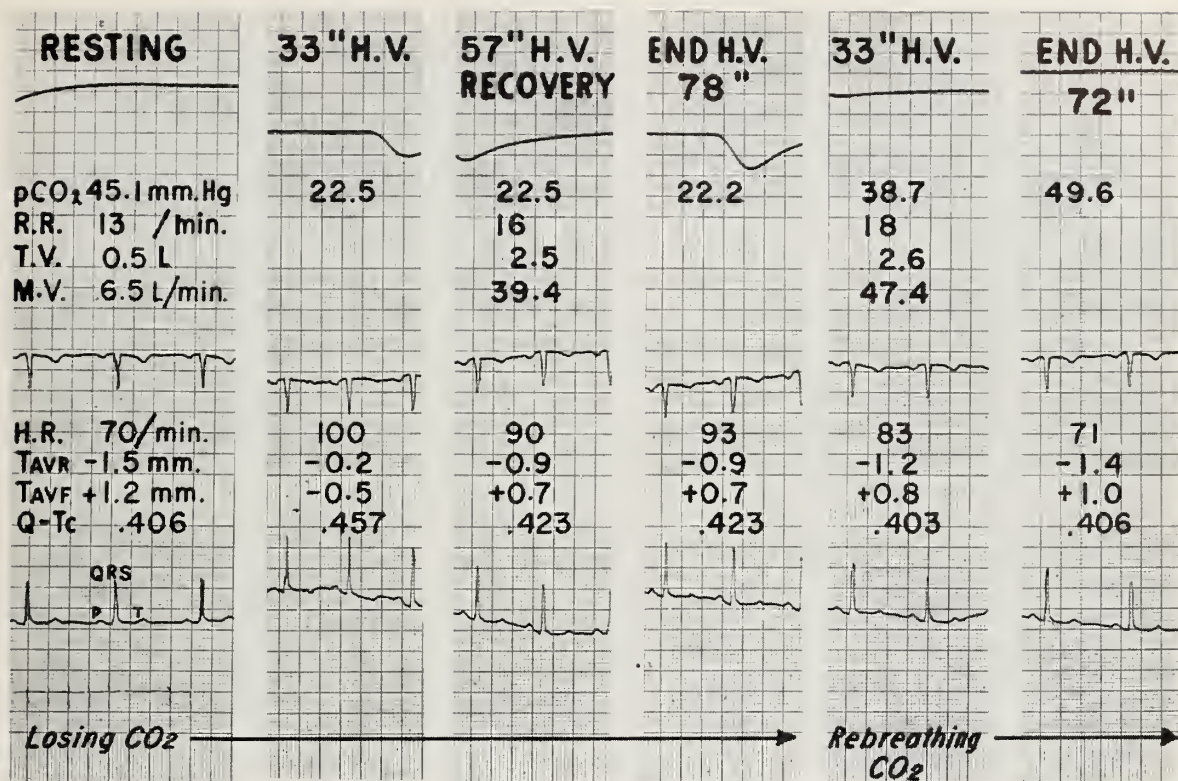


Figure 1.—Representative sections from record of normal subject during standard H.V. experiment. H.V. with rapid reduction in pCO₂ (viz. "Losing CO₂") results here in maximum electrocardiographic changes at 33 seconds and then, despite maintained H.V. and low pCO₂, in return of cardiac indices toward normal at 57 seconds ("recovery"). When pCO₂ not reduced (viz. "Rebreathing CO₂") no significant cardiac phenomena occur. (See text for more detailed discussion.)

Abbreviations: H.V. = Hyperventilation; R.R. = Respiratory rate; H.R. = Heart rate; pCO₂ = Carbon dioxide tension; T.V. = Tidal volume; M.V. = Minute volume; QTc = QT interval corrected for heart rate.

the initial link in the pathogenetic chain is the overbreathing. This results in a reduction in arterial carbon dioxide tension and a concurrent rise in pH. Critical changes in these indices can be achieved in the first 30 seconds of hyperventilation even though a further 60 to 90 seconds may be needed for maximal changes.⁸ These primary changes appear to initiate the widespread biochemical and physiological phenomena that follow and are responsible for the multiple clinical manifestations. It is our impression that up till this point most patients are preoccupied with various disturbing details related to the precipitating process and thus are not at all aware of their respiratory aberrations. It is only when the intermediate mechanisms have been called into play that the alarming symptoms develop and intrude into their conscious awareness. Then, for the first time, they may notice their rapid, labored breathing and thus come to insist that their respiratory changes followed rather than preceded the onset of their acute attacks. Patients are usually terrified by the unexpected impact of these alarming symptoms, and their fear, as depicted in Chart 1, tends to accentuate and prolong the overbreathing and

simultaneously, we suspect, to bring about endocrine and autonomic nervous system responses. This is the inner neuroendocrine pathway noted on the diagram, which, as will be described later, often contributes importantly to the total cyclic process.

LABORATORY STUDIES

Detailed presentation of the cardiac, pulmonary and acid-base balance data obtained during our hyperventilation studies already has been reported.^{7,8} In brief, we studied a group of normal subjects and a group of "chronic hyperventilators" during two similar periods of voluntary overbreathing in an identical laboratory setting. The subjects were placed in a closed breathing system that included an infrared carbon dioxide analyzer to provide us with a rapid and continuous record of the changing alveolar carbon dioxide tension which, for all practical purposes, is identical to the arterial carbon dioxide tension. We obtained continuous spirometric and electrocardiographic data at the same time and, in certain subjects at suitable intervals, we drew femoral arterial blood for pH determination. During

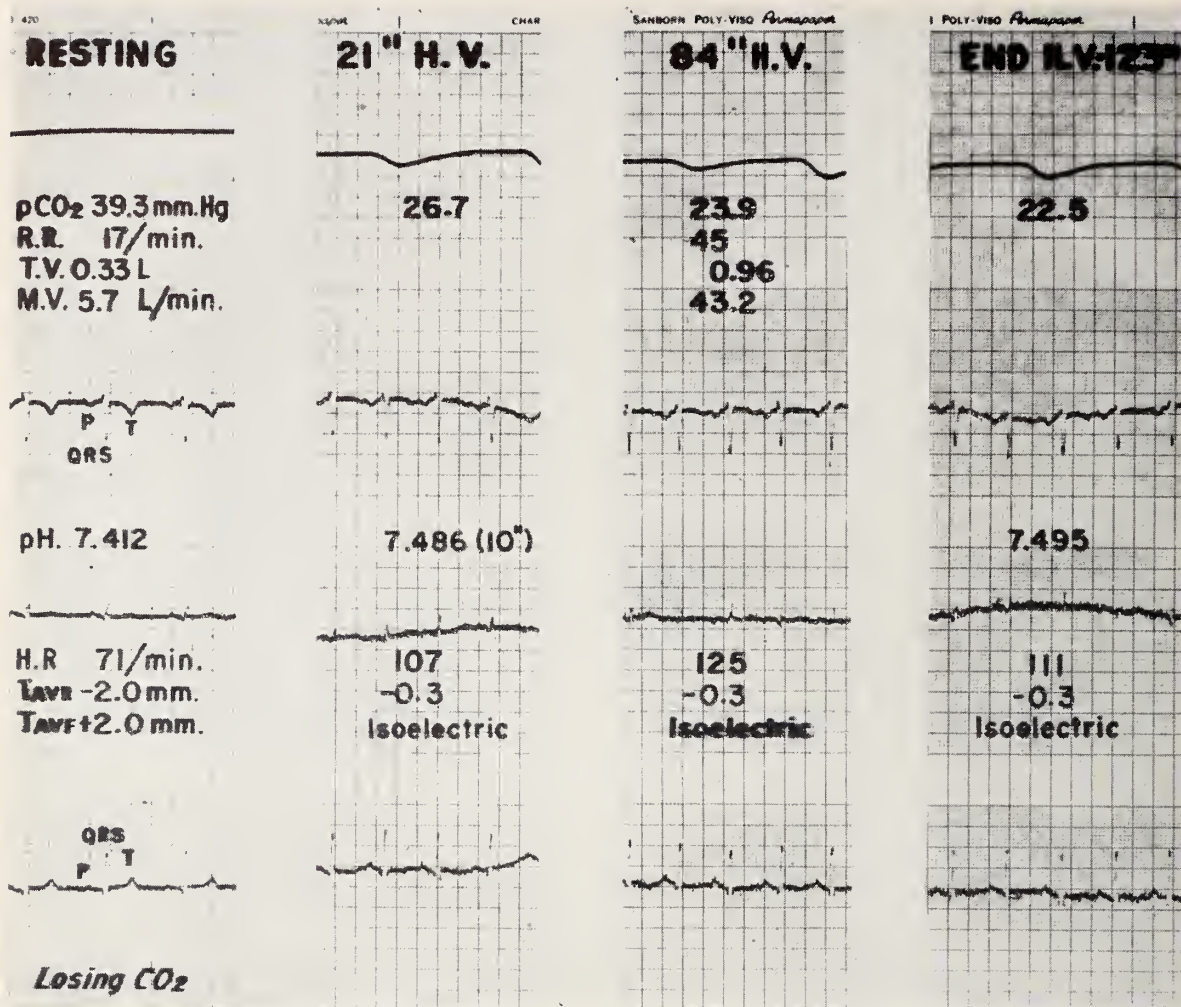


Figure 2.—Representative sections from record of "hyperventilator" during standard H.V. experiment when pCO₂ abruptly reduced. Typical electrocardiographic changes in H.R. and T waves occur in 21 seconds and the arterial pH rises impressively within 10 seconds. No evidence of cardiac "recovery" is seen. (See text for more detailed discussion.)

Abbreviations: H.V. = Hyperventilation; R.R. = Respiratory rate; H.R. = Heart rate; pCO₂ = Carbon dioxide tension; T.V. = Tidal volume; M.V. = Minute volume.

one period of voluntary hyperventilation a canister of soda lime was introduced into this closed respiratory system which absorbed the expired carbon dioxide and expedited the drop in alveolar carbon dioxide tension. This canister was absent during the second period of overbreathing so the subject was able to rebreathe his expired gases, thus inducing a progressive rise in alveolar carbon dioxide tension. These two periods of hyperventilation were therefore identical except for the opposing changes in alveolar carbon dioxide tension.

Figure 1 shows representative sections from the continuous record of a typical experiment on a normal subject. The section on the far left presents the resting or control data. The upper sloping horizontal line represents the alveolar carbon dioxide tension, which in this case was 45 mm. Hg. Below this are noted the respiratory rate, tidal and minute

volumes and pertinent electrocardiographic data. Moving from left to right the next three sections illustrate the cardiopulmonary changes occurring during acute hyperventilation (in the presence of the canister of soda lime). The carbon dioxide tension at 33 seconds confirms the rapidity with which such reductions can be achieved. Little further reduction occurred after 78 seconds of overbreathing. The mean respiratory data for the entire period noted in the 57-second section confirm the increased pulmonary ventilation that occurred.

The electrocardiographic tracings show that at 33 seconds the heart rate increased from 70 to 100 beats per minute; the T_{AVR} was almost isoelectric at that time and the T_{AVF} had been converted from a positive deflection of 1.2 mm. to a negative deflection of 0.5 mm.; and the Q-Tc had lengthened to 0.457. (The accepted upper limit of normal for the

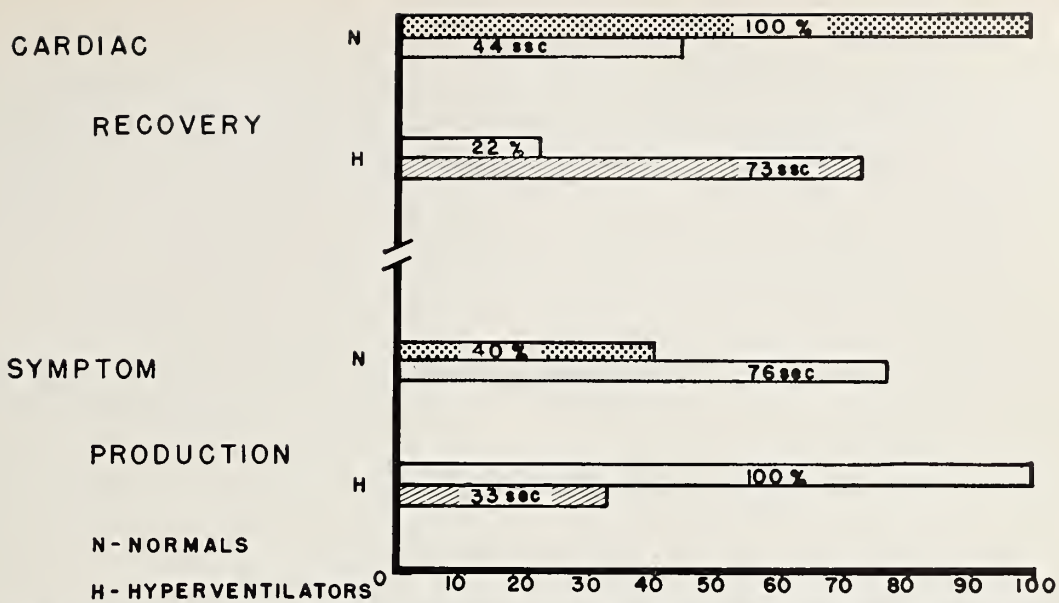


Chart 2.—Response patterns to voluntary hyperventilation. Upper section of chart shows that all normals (N) achieved partial or complete electrocardiographic “recovery” during H.V. at mean time of 44 seconds in contrast with 22 per cent of “hyperventilators” (H) who required mean time of 73 seconds. Lower section of chart shows that typical H.V. symptoms developed in all “hyperventilators” early (mean time 33 seconds), whereas only 40 per cent of normals had mild symptoms and these occurred much later (mean time 76 seconds).

Q-Tc is 0.425.) This increase is indicative of an abnormal prolongation of electric systole at the expense of diastole, which is the reverse of what one would normally expect with an acceleration in heart rate.

It is evident that at 57 seconds of hyperventilation, despite the continued overbreathing and reduced alveolar carbon dioxide tension, the tachycardia was decreasing, the T-wave changes were reverting and the Q-Tc had returned to just within normal range. These phenomena were regarded as indicative of “cardiac recovery” on the assumption that some degree of cardiovascular compensation for the reduced carbon dioxide tension had been achieved. These “recovery” phenomena persisted to the end of the hyperventilation period even though the alveolar carbon dioxide tension diminished a little more.

The two final sections on the right represent comparable stages of the second period of hyperventilation when, with the soda lime canister absent, the subject rebreathed his own expired gases which slowly increased the alveolar carbon dioxide tension. In these two sections, despite an even greater respiratory exchange than during the first period, no significant electrocardiographic changes occurred.

This sequence of events was typical of all the normal subjects, which tends to confirm the thesis that it is the rapid fall in arterial carbon dioxide tension that induces these electrocardiographic phenomena, rather than the increased ventilation or

heart rate per se or the changes in position of the heart and/or the diaphragm.

When the patients with chronic hyperventilation were put through the same experimental procedures, they had similar and often more striking electrocardiographic changes but in them there was virtually no evidence of the “cardiac recovery” phenomena. This apparent inability to compensate electrocardiographically is clearly demonstrated in Figure 2, which demonstrates as well the rapidity with which significant changes in arterial pH can occur in a person who hyperventilates. The pH rose from 7.412 at rest to 7.436 in 10 seconds of overbreathing and increased more slowly thereafter to 7.495 at 123 seconds. This illustrates the degree of respiratory alkalosis that can occur with even brief hyperventilation.

The bar graphs in the upper half of Chart 2 show that in all the normal subjects the “cardiac recovery” phenomena occurred, the mean time for the group being 44 seconds. Only 22 per cent of the “hyperventilators” showed a mild tendency in this direction, and in them it occurred at an average time of 73 seconds. The majority lacked any capacity to adjust or compensate in this way. The lower bar graphs indicate that 40 per cent of the normal subjects developed characteristic but rather mild hyperventilation symptoms after a mean time of 76 seconds of overbreathing. The hyperventilators on the other hand all developed symptoms that were quite severe and began on the average at 33 seconds.

The significance of these data is far from clear.

Our current impression is that the hyperventilators have become "conditioned" in a sense, so that they are able to reduce their carbon dioxide tension extremely rapidly. Paradoxically, however, they do not seem able to handle effectively the physiological sequelae of these abrupt variations of arterial carbon dioxide tension.

DIAGNOSIS

Although the acute hyperventilation syndrome is well known, the more common chronic pattern, with its insidious onset and tendency to simulate serious organic disease, is not well enough appreciated. Diagnostic and therapeutic errors are thus quite common. In only one of the first 150 patients in the present series with the chronic syndrome was the possibility of a hyperventilation mechanism suspected.⁸

In attempting earlier to describe the clinical features, I emphasized various characteristics that might serve as diagnostic clues. It should be clearly stated, however, that these particular characteristics are not always immediately apparent and often have to be carefully elicited from the many symptoms in the background that may be considered by the patient as relatively minor.

When one suspects the presence of a hyperventilation mechanism the diagnosis must be confirmed by reproducing a typical acute exacerbation with voluntary overbreathing. Persons who hyperventilate will have classic exhibition of their characteristic symptoms within the first 60 seconds of overbreathing, although a full-fledged attack may take a little longer. A minimum of 2 and preferably 3 minutes of overbreathing must be performed before a test can be considered negative. Should characteristic symptoms be reproduced, a medium (6 pound) paper sack is placed firmly over the patient's nose and mouth and he is requested to breathe slowly from it. This expedites the prompt elevation of the arterial carbon dioxide tension, and the patient's symptoms begin to subside within 30 to 60 seconds. He is permitted to remove the paper sack when he feels comfortable, and usually he does so voluntarily within 2 to 3 minutes. Occasionally patients who have demonstrated a decided secondary response pattern of apprehension may fail to react when voluntarily overbreathing in the reassuring environment of the physician's office. In such situations I have found it necessary to set the psychological stage before attempting to reproduce a typical acute attack.

THERAPY

Excluding the relatively few patients with an organic basis for their hyperventilation syndrome, the initial therapeutic step, when such a pattern is

suspected, is to attempt to reproduce the characteristic symptoms with voluntary overbreathing. When successful this both alarms and impresses the patient, and the rapid relief obtained with the paper sack is proportionately reassuring. This experience often evokes an emotional catharsis that in turn brings about temporary symptomatic relief while often shedding additional light on the nature of the underlying problems. This may provide the physician with valuable material for future discussion that would otherwise be unavailable to him.

In such cases, this experience is vital to the development of an effective physician-patient relationship. It demonstrates to the patient the reality of his symptoms on the one hand and at the same time reveals their emotional origin to him. With suitable explanation and reassurance he is able to appreciate the benign nature of the disorder, which helps to dispel his fears of serious disease and permits a more realistic approach to the basic problems. The average physician is quite capable of exploring and aiding in the solution of most of these problems.^{6,9} Apparent cure was brought about in approximately 70 per cent of the patients in the present series. Approximately 20 per cent achieved partial and/or temporary improvement, requiring periodic reassurance from time to time. The remaining 10 per cent were not helped and were found to be patients with severe depressive or hysterical patterns who needed prolonged psychiatric treatment.

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Surgical Management of Dissecting Aneurysm

The Use of a Simplified Bypass

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FEW MEDICAL CATASTROPHES are more dramatic in onset, more fulminating in course or more rapidly fatal than dissecting thoracic aneurysm. With our gradually aging population the incidence of this disease is increasing; it is estimated to occur once in every 10,000 hospital admissions.⁵ In recent years major advances have been made in vascular operations, including the surgical management of dissecting thoracic aneurysms. Thus, successful treatment of the disease depends in large part on making a correct clinical diagnosis. The need for early diagnosis is apparent from Hirst's statistics on the survival of patients with this disease.⁵ He and his colleagues found that 21 per cent of patients with dissecting aneurysms were dead within 24 hours of the time dissection began, half within the first four days, three-fourths within the first two weeks and 91 per cent by the end of six months.

The diagnosis is often difficult, especially if the possibility of dissecting aneurysm is not considered. The most classical finding is severe chest pain arising suddenly in a patient with known hypertension. Spread of pain into the upper extremities occurs infrequently. Extension of the dissection characteristically produces symptoms in the abdomen and lower extremities. These may consist of abdominal rigidity or even ischemic changes of the lower extremities. The most common incorrect diagnoses that are entertained are myocardial infarction, perforated ulcer and pancreatitis. Electrocardiographic changes usually show evidences of left ventricular hypertrophy or left axis deviation without the characteristic changes of acute myocardial infarction.

Once dissecting aneurysm is suspected, radiographic studies are particularly useful in substantiating the diagnosis. The classical findings, usually seen on routine films, consist principally of widening of the aortic knob or supracardiac shadow. This sign is particularly useful when previous films of the chest are available for comparison. The false passage produced by the dissecting hematoma may be seen as a double contour in the arch of the aorta, especi-

• The alarming mortality in cases of dissecting aneurysm of the aorta has stimulated the development of a surgical technique which results in re-entry of the dissecting channel. During the operative procedure prolonged cross-clamping of the aorta is necessary. While hypothermia will provide protection to the spinal cord and kidneys during reasonable periods of aortic occlusion it will not relieve back pressure on the left ventricle.

By the use of a simple bypass blood is drained from the left atrium into a reservoir and then pumped into the lower aorta via the femoral artery. Thus an adequate supply of oxygenated blood is delivered to the spinal cord and kidneys distal to the occlusion while the left ventricular pressure is decompressed to normal levels. The volume of the shunted blood is simply controlled by monitoring the brachial artery pressure with a cuff sphygmomanometer. This simplified bypass has permitted successful repair of a dissecting aneurysm with complete occlusion of the thoracic aorta for a period of two hours.

ally if intimal calcification is present. These changes may be accentuated by sectional roentgenography.

With the exception of a few scattered reports of surgical attempts to correct this lesion, little therapeutic success was recorded before DeBakey's report in 1955.² DeBakey's procedure is to do by artifice what may occur accidentally to permit an untreated patient to survive, namely the creation of a method for re-entry to the dissecting channel. The re-entry is fashioned by dividing the thoracic aorta, oversewing the distal double lumen, and creating a window between the proximal two channels. The aorta is then reconstructed by an end-to-end anastomosis.

Cross-clamping of the thoracic aorta cannot be performed with impunity. Permanent damage to the cord and kidneys will often result if the thoracic aorta is occluded more than 20 minutes. Cross-clamping of the thoracic aorta also subjects the left ventricle to severe strain, which is poorly tolerated in arteriosclerotic heart disease. In addition, the increase in root pressure may cause a fatal retrograde dissection with hemopericardium.³ While hypothermia will permit considerably longer periods of cross-clamping of the thoracic aorta, it does not diminish the back pressure on the left ventricle. To

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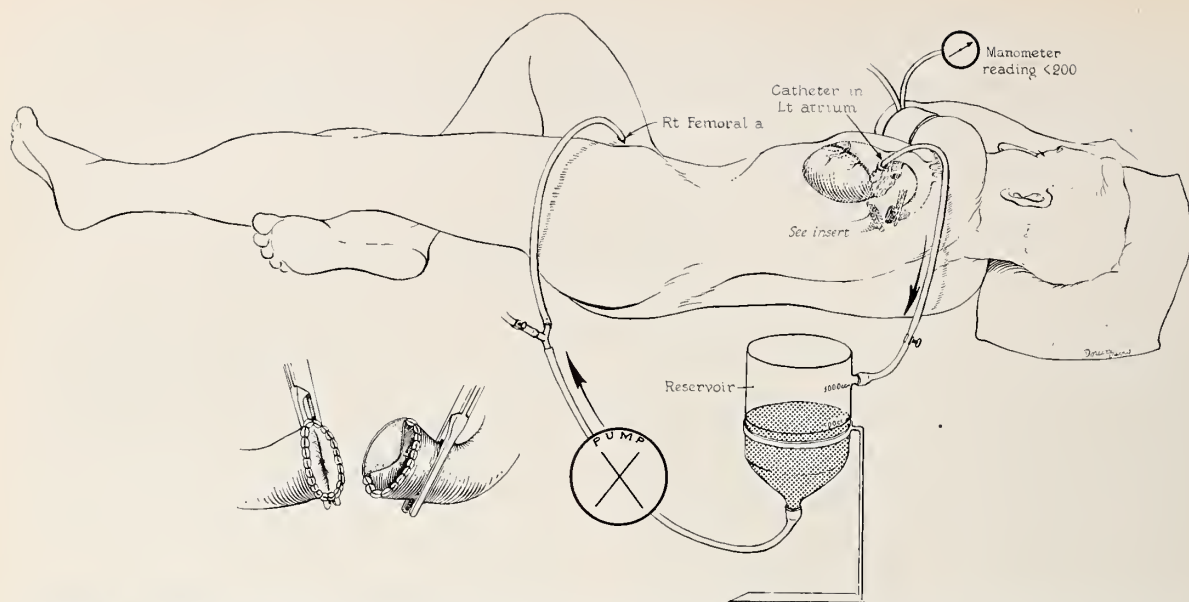


Figure 1.—Diagram showing the details of bypass used. Insert demonstrates the operative technique employed to repair the aorta.

circumvent these difficulties Cooley and colleagues devised an ingenious extracorporeal bypass of oxygenated blood from the left atrium to the femoral artery.¹

In the first two patients in whom we used this technique, several difficulties were encountered. In the first patient there was difficulty in ascertaining the rate of flow through the closed circuit, and in the second patient we did not recognize the necessity of maintaining a root pressure at least equal to the normal blood pressure. In such an event coronary insufficiency is created, which is particularly poorly tolerated in patients of this type. The method we use now is that of Cooley with several modifications. A No. 24 (French) plastic catheter is introduced into the left atrium and is connected by plastic tubing to a siliconized reservoir. A sgmamotor pump is used to return the blood through a tube from the reservoir to the femoral artery. The rate of flow is governed as follows. The atrial line to the reservoir is adjusted by a stopcock so that the arm cuff pressure is maintained at least equal to the patient's normal systolic pressure (Figure 1) or below 200 mm. of mercury. The arm pressure is checked every five minutes by the anesthetist so that the flow from the atrium can be appropriately varied by regulating the stopcock. In this way excessive back pressure on the left ventricle is prevented, while adequate perfusion of the coronary arteries is insured by avoiding an uncontrolled run-off from the left atrium, which would produce a subnormal aortic root pressure. The quantity of blood in excess of that necessary to maintain the normal systolic root pressure is removed from the left atrium

and flows into the reservoir. The pump speed is regulated so that the starting priming level in the reservoir is kept at a constant level. From the reservoir the blood passes through the pump back into the distal aorta by way of the femoral artery. No attempt is made to monitor the femoral artery pressure, as more than adequate perfusion of the kidneys and distal cord is provided by the amounts of blood necessary to keep the aortic root pressure from rising precipitously when the aorta is cross-clamped. In this way the spinal cord and kidneys are nourished adequately for indefinite periods of aortic cross-clamping. General body hypothermia of 32° to 33° C. provides additional safety to the spinal cord and kidneys and permits the bypass to be carried out at lower flow rates.

REPORT OF A CASE

A 57-year-old white man was admitted to the San Mateo Community Hospital on September 6, 1958, with complaint of severe back pain with radiation to the costovertebral angles bilaterally. Eighteen hours previously, while driving to work, he first experienced severe back pain, which soon thereafter radiated vaguely into the abdomen. He also had noted shortness of breath at that time. He was first admitted to another hospital. There the blood pressure was observed to be 190/110 mm. of mercury. He was pale, sweaty, and had a boardlike abdomen. A diagnosis of perforated peptic ulcer or pancreatitis was considered. The serum amylase content was within normal limits and no abnormalities were noted in fluid aspirated from the peritoneum. An



Figure 2.—*Left*, film of chest on entry, interpreted as showing slight aneurysmal tortuosity of the arch and proximal descending thoracic aorta. *Right*, lateral film with similar findings.

electrocardiogram was consistent with left ventricular strain: and a roentgenogram of the chest showed slight aneurysmal tortuosity of the thoracic aorta with slight dilatation of the arch and proximal descending thoracic aorta (Figure 2). The patient was observed overnight and then transferred to the San Mateo Community Hospital for further observation. The clinical diagnosis at the time was pancreatitis.

Upon physical examination at the San Mateo hospital, blood pressure was observed to be 160/120 mm. of mercury. There were no cardiac murmurs, and no abnormal pulsations or peripheral murmurs were observed. Tenderness to deep pressure in the epigastrium was noted. The remainder of the physical examination was within normal limits.

Laboratory studies revealed moderate leukocytosis, hemoglobin content of 12 gm. per 100 cc. and a hematocrit of 40. The reaction to a test of the urine for sugar was 2 plus. No abnormality was noted in the spinal fluid.

Since the amylase content was within normal limits a diagnosis of carcinoma of the pancreas was considered. Observation was continued and on September 12, 1958, x-ray films of the chest taken soon after a recurrent attack of the severe retrosternal and back pain revealed progression in the diameter of the thoracic aortic aneurysm (Figure 3), particularly evident when compared to films that had been taken on February 15, 1955 (Figure 4). It was at this time that the diagnosis of a dissecting thoracic aneurysm was first considered.

On September 14, 1958, under light general anesthesia, hypothermia to 32 degrees C. was induced and thoracotomy was performed through a left postero-lateral incision, with resection of the fifth rib. Preliminary exploration revealed a mass arising in the proximal arch at the origin of the innominate

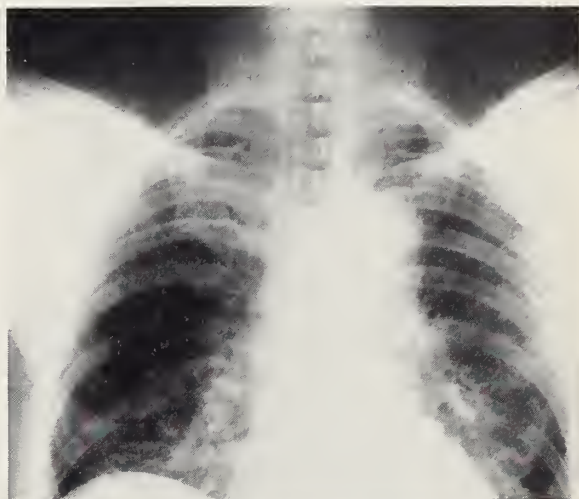


Figure 3.—Film of chest taken September 12, 1958, after a severe recurrent attack of retrosternal pain.

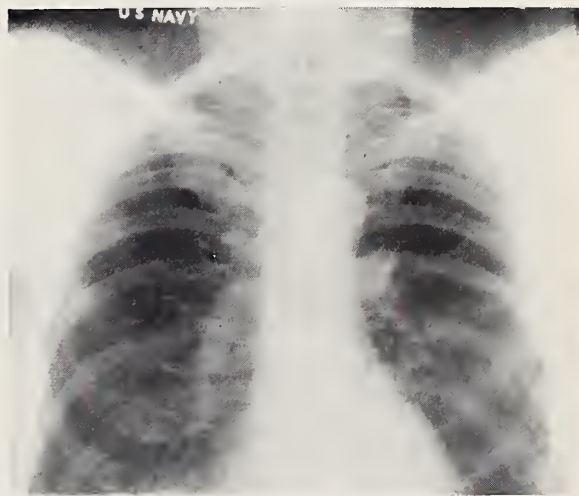


Figure 4.—Routine film of chest taken three years before illness reported herein.

artery, having its greatest diameter just beyond the left subclavian artery. The entire thoracic aorta was involved with the dissecting hematoma to the level of the diaphragm. The aortic arch and proximal descending thoracic aorta were mobilized by dissection.

Heparin was administered intravenously, 3 mg. per kilogram. The plastic catheter leading to the blood reservoir was inserted into the left atrium through the left auricular appendage and was affixed with a purse-string suture. The efferent catheter from the bypass pump was attached to a cannula in the left common femoral artery. With the application of the noncrushing occluding clamps to the thoracic aorta, the left heart bypass was started. The rate of bypass was regulated to maintain the right arm cuff pressure at 190 mm. of mercury. No attempt was made to monitor the femoral artery pressure. The pump speed was adjusted to keep the reservoir level constantly at the starting mark.

The thoracic aorta was transected just distal to the origin of the left subclavian artery. The dissecting hematoma involved the entire circumference of the wall. On release of the distal clamp only slight retrograde blood flow occurred from the false lumen. Large clots and a small amount of blood were aspirated from the false passage and then the dissected layers were approximated by a continuous circular suture. A window encompassing two-thirds of the circumference was cut in the intima above, and the remainder of the wall was then sutured to obliterate the false passage. The ends of the aorta were then anastomosed. The partial cardiac bypass was utilized for 90 minutes while the aorta was cross-clamped.

The postoperative course was uneventful and the patient left the hospital on the seventeenth postoperative day. The blood pressure was 190/130 mm. of mercury. He returned to work as a steamfitter on December 8, 1958. When last seen, on March

19, 1959, he was doing very well; he was asymptomatic, his blood pressure had not changed, and he was working and living a normal life.

DISCUSSION

This case demonstrated very well the difficulties encountered in arriving at a correct early diagnosis. It was only after several successive chest films were compared that the classical widening of the supra-aortic shadow was noted and a diagnosis of dissecting aortic aneurysm was made. This case also demonstrated how the use of a simplified left atrium-to-femoral artery bypass permits periods of extended cross-clamping of the thoracic aorta during which the dissecting channel can be converted back into the central aortic lumen.

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ADDENDUM

One of the authors (JEC) has recently successfully employed this simple bypass in the repair of a traumatic aortic aneurysm with complete occlusion of the thoracic aorta for a period of two hours.

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Cancer of the Lung in Tuberculous Patients

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CANCER OF THE LUNG is more common in tuberculous patients than it is in a comparable segment of adult population in the United States. It was assumed at one time that tuberculosis protected against cancer of the lung. Rokitansky¹⁶ said that a definite antagonism exists between cancer and tuberculosis. In recent years it has become widely known that the diseases quite commonly co-exist.^{2,4,5,10,18}

The purposes of this communication are (1) to emphasize the frequency of coexistence of the two diseases, (2) to illustrate the methods we use to assist in diagnosis, and (3) to indicate the immediate results we observed in a documented series of cases in which patients had both diseases.

Of 7,680 tuberculous patients admitted to Olive View Sanatorium, 4,010 were over the age of 45 years, and of that group 54 had both cancer of the lung and pulmonary tuberculosis. No patients less than 45 years of age had this combination of diseases. The incidence rate was 1.4 per cent for the age group in question. Although exactly comparative figures are difficult to obtain, rates have been suggested which are much less for the general population³ (Table 1). We estimate the incidence of carcinoma of the lung in tuberculous patients at Olive View Sanatorium to be 8 to 10 times that noted in the general population. About 10 per cent of patients who had carcinoma of the lung detected in mass screening roentgenographic surveys also had active tuberculosis, a figure which has been widely substantiated.^{3,4,6,9,14}

In the present series of patients who were ultimately found to have cancer of the lung, diagnostic studies yielded information adequate for diagnosis in a disappointingly small number of cases (Table 2). In four of 44 patients results of scalene node biopsy were positive for carcinoma; in seven of 46 patients bronchoscopic observations were positive; cytologic studies of sputum were positive in 3 of 42 cases; bronchograms were of limited significance. The diagnostic acuity associated with these aids for diagnosis of pulmonary cancer was less in tuberculous than in non-tuberculous patients. The most important diagnostic clues were obtained from careful studies of serial x-ray films.^{7,8,11,15,17}

Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22-25, 1959.

• Of all tuberculous patients over 45 years of age admitted to Olive View Sanatorium in the five-year period ended July, 1958, 1.4 per cent had cancer of the lung. This is a much higher incidence than in a comparable segment of the general population.

Careful examination of serial roentgenographic studies in all cases of suspected pulmonary lesions was found to increase diagnostic acuity. Scalene node biopsy, cytologic study and bronchoscopy were of less help. Diagnostic thoracotomy was the single most useful procedure for diagnosis.

As to operability, the results in patients with both cancer and tuberculosis compared very well with those in patients who had only cancer. Patients who have inactive pulmonary tuberculosis and cancer have much poorer results than patients with active tuberculosis and cancer. There are difficulties in accurately diagnosing cancer in the presence of tuberculosis; and there are special problems in patients with inactive tuberculosis and cancer.

In the following classes of patients the possibility of pulmonary carcinoma should be strongly considered:

1. Those with abnormality in x-ray films of the chest with sputum negative for tubercle bacilli.
2. Those with inactive fibronodular tuberculosis in whom there is evidence suggestive of enlarging components.
3. Those with known active tuberculosis if proper healing does not take place with ordinarily effective anti-tuberculosis treatment.

TABLE 1.—Incidence of Cancer of the Lung (Boucot and Sokoloff³)

	Rate per 100,000		Total
	Female	Male	
Under 45 years of age.....	2	5	3
Over 45 years of age.....	9	284	175
Over-all total			37

TABLE 2.—Positive Results from Diagnostic Studies of Various Kinds in Cases of Combined Tuberculosis and Cancer of the Lung

	Number Tested	Number Positive	Per Cent
Scalene Node Biopsy	44	4	9
Bronchoscopy	46	7	15
Cytology of sputum	42	3	7
Miscellaneous	46	2	4
Over-all Histologic Pre-operative Diagnosis.....			18

TABLE 3.—Data on Means of Diagnosis and Operability in 54 Cases of Combined Tuberculosis and Carcinoma

	Number	Per Cent
Pre-operative Histologic Diagnosis	10	18
Operability	25	46
Diagnosis from Thoracotomy	21	39

TABLE 4.—Results in 54 Cases of Combined Tuberculosis and Cancer

	Number	Per Cent
Considered operable	25	46
Curative Resection	12	22
Palliative Resection	3	6
Non-resectable	10	18

TABLE 5.—Results in 36 Cases of Combined Active Tuberculosis and Cancer

	Number	Per Cent
Considered operable	19	53
Curative Resection	10	28
Palliative Resection	2	8
Non-resectable	7	19

TABLE 6.—Results in 18 Cases of Combined Inactive Tuberculosis and Cancer

	Number
Considered operable	7
Curative Resection	2
Palliative Resection	1
Non-resectable	4

The most effective diagnostic procedure for us (as for others¹²) had been early thoracotomy in cases in which there is reasonable possibility of carcinoma (Table 3). In only ten of 54 cases in the present series was the carcinoma histologically diagnosed preoperatively. Thoracotomy was done in 25 of the 54 patients and the diagnosis was made at the time of operation in 21 of the 25.

The presence of tuberculosis in a patient with lung cancer cannot be expected to favorably affect the generally grim prospect of this highly lethal neoplasm.^{3,14} We have chosen to classify the prognosis on the basis of findings at time of operation. As soon as the pathologist's report is available, all cases are classified as (1) curative resection, (2) palliative resection, (3) non-resectable. When mediastinal lymph nodes are involved, a resection is considered to be palliative, even though it is recognized that there may be some possibility of cure.

Twenty-five of the 54 cases were considered operable (Table 4). All except four of these patients with carcinoma of the lung and tuberculosis were found to have tumors of an epidermoid type. Only two of the patients with combined disease were women. Twelve of the patients had a resection of curative type. Curative resections were done in a

TABLE 7.—Results in 85 Cases of Cancer of the Lung

	Number	Per Cent
Considered operable	21	24
Curative Resection	11	12
Palliative Resection	4	5
Non-resectable	6	7

TABLE 8.—Data on Operability of Cancer of the Lung in Patients with Tuberculosis and in Non-Tuberculous Patients (Olive View Sanatorium—1953 to 1958)

	Per Cent Active Tuberculosis	Per Cent Inactive Tuberculosis	Per Cent Non-Tuberculous
Considered operable	53	37	24
Curative Resection	28	11	12

greater proportion of patients with active tuberculosis than in those with inactive tuberculous disease (Tables 5 and 6). In this connection it should be noted that it is easy to overlook the slow progress of malignant disease in a patient who has residual fibronodular tuberculosis. Moreover, close and accurate follow-up is not always available in the case of patients with inactive tuberculosis, whereas almost all patients with active disease are in the sanatorium or under close outside supervision.

In 85 cases of carcinoma of the lung in non-tuberculous patients observed at Olive View Sanatorium in the five-year period here reviewed, the operability rate was 24 per cent, compared with 46 per cent for the 54 patients with both tuberculosis and cancer (Table 7). Curative resections were done in 12 per cent of the non-tuberculous cancer patients, as compared with 22 per cent in patients who had both cancer and tuberculosis (Table 8).

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Roentgen Therapy of Intrathoracic Neoplasms

FRANZ BUSCHKE, M.D., San Francisco

RADIOTHERAPEUTIC EQUIPMENT now available enables us to introduce adequate tumor doses anywhere in the body with relative ease. This facility, together with the rapid progress being made in thoracic surgery, should presumably give a relatively consistent control of thoracic tumors; but in carcinomas of the esophagus and lung, with which this presentation is concerned, results to date remain dismally poor. In a recent comprehensive survey of esophageal carcinoma covering five international centers particularly interested in the treatment of this disease, Smithers⁶ found reports of 13 patients who had survived five years out of 1,412 patients treated by radiation therapy between the years 1919 and 1951. Of 6,348 patients observed in 14 institutions between the years 1931 and 1955, 90 survived five years following either irradiation or surgical operation. Considering only patients treated in recent years by modern methods, this situation has not changed significantly. Similarly, control of bronchial carcinoma by radiation therapy (13 reported cases, to the best of the author's knowledge) has remained a clinical curiosity in medical literature. All the patients in these cases were treated with medium-volt therapy.

CANCER OF THE ESOPHAGUS

In 1952 the author attempted a comparison¹ of the results obtained in treating esophageal carcinoma by optimal surgical techniques and by optimal modern methods of radiation. Surprisingly, the statistical results were quite similar, with a five-year salvage of about 3 per cent of the patients by either operation or radiotherapy. More significantly, palliation was approximately the same by either method, as measured by survival of 40 per cent through the first year, 15 per cent through the second and 10 per cent through the third.

Such similarity suggests that the limitations may be biological and not technical in nature. As with other epidermoid carcinomas, it appears, the limiting factor is not the elimination of the primary disease but the control of the regional lymphatics. Anatomically, the thorax does not lend itself to block dissection as do the lymphatics of the neck,

• The results of treatment of carcinoma of the esophagus, whether by operation or radiation, are equally poor: At best 3 to 5 per cent 5-year survival in larger series. Likewise, the palliative results as judged from short-term survival after 1, 2, and 3 years are approximately the same. The cause of failure is usually that metastatic deposits are already present in the paraesophageal and mediastinal nodes by the time diagnosis is made. Control of these nodes is impossible either by surgical or by radiation therapy, but in about half of the patients adequate irradiation therapy will be palliative and will satisfactorily re-establish esophageal function, but entail less morbidity than surgical operation.

Carcinoma of the lung yields little to radiotherapy. Cure is rare, but specific aims of palliation may be achieved. Anaplastic tumors can be controlled locally by irradiation, but they metastasize so rapidly that the chief aim of radiotherapy is to relieve pulmonary embarrassment due to rapid enlargement of mediastinal lymph nodes. Epidermoid carcinomas and adenocarcinomas may be treated at points of bronchial obstruction by intense irradiation, but diffuse thoracic pain is better palliated by sympathetic nerve block.

and the secondary deposits in the mediastinum are even less controllable by radiation than are the biologically similar but much more accessible lymphatic deposits from carcinoma of the oral cavity. The situation is more similar to that of carcinoma of the cervix where, likewise, the prospect of cure is markedly reduced either by radiation or by the most recent surgical approach, once the lymph nodes are involved.

It has been recognized for more than 20 years that epidermoid carcinoma of the esophagus in its primary location is as radioresponsive as epidermoid carcinoma originating in the oral and pharyngeal mucosa. In about half these tumors the esophageal passage can be re-established for the duration of the patient's lifetime;^{5,7} moreover, there is now a sufficient number of well-authenticated necropsy reports, detailing careful serial subsectioning of the treated esophagus without evidence of remaining tumor, to establish that control of the primary lesion is possible in a rather consistent proportion of treated cases. Even the risk of perforation—previously an important deterrent to irradiation of so thin-walled an organ—has been vanquished. If proper technique is used, perforation no longer need

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be feared in cases where there has been no previous evidence of imminent perforation or penetration, such as retrosternal or back pain of a penetrating character independent of food intake, or radiographic findings suggestive of a niche. The nine perforations in the 34 patients in the present series who were completely treated occurred in the presence of uncontrolled disease a month to 15 months after completion of therapy, and therefore were probably due to the disease itself.

Analysis of my own material relating to patients treated at the Swedish Hospital* in Seattle between 1940 and 1953 substantiated the conclusions drawn from the larger, but less uniform, international surveys. The number of cases was small, but treatment was conducted with particular personal attention to details.

Significant palliation was obtained in 17 of 34 patients completely treated (out of 77 seen) between 1940 and 1953. In six of the 17 the primary lesion was apparently controlled: Three had roentgenographic and clinical absence of symptoms (for 15, 13, and 2 years); and in the other three, subserial sections of the esophagus at autopsy (ten, four and a half years and two-thirds of a year after treatment) showed no evidence of malignant disease. Eleven additional patients showed radiological and clinical evidence of satisfactory esophageal function for periods of five months to 26 months following treatment and before they died of extraesophageal disease. In three of the four patients in whom the disease was controlled for the longest periods, the lesion was located in the upper third of the esophagus: in one it was in the lowermost portion at the junction with the cardia.

From the available data, therefore, it would appear that further technical improvements are not likely to produce any clinically significant advantage for either surgical therapy or radiotherapy of esophageal carcinoma. Quite probably, though, more good can be done for more patients—and useless post-therapeutic morbidity avoided—by more careful selection of the treatment in each case. By such selection Garlock,¹ for example, obtained five-year freedom from symptoms in ten of thirty-six patients who had resection (28 per cent) and in 12 per cent of 81 patients who had exploratory operations. The main considerations in selection of therapy are, in order of importance, the location in the esophagus, the nature of the tumor and the patient's age; but each case should be analyzed in consultation between surgeon and radiotherapist.

It has long been recognized that lesions in the upper portion of the esophagus are more likely to respond to radiotherapy, while the best surgical re-

sults are obtained in lesions of the lower esophagus. Smithers,⁶ in his recent analysis, deduced that roentgen therapy had achieved five-year salvage in 11 per cent of carcinomas in the cervical esophagus but only 2 per cent of those in the lower thorax, whereas the proportion was reversed for surgical therapy, and for midthoracic lesions results were equally poor by either method. Previously, the choice in treatment of midthoracic lesions might be determined by the greater primary mortality following supra-aortic as compared with infra-aortic anastomosis; but with further experience this difference has decreased. Infra-aortic anastomosis is legitimate only for lesions of the lower tract, since the possible extension of the tumor into the submucosal lymphatics along the esophagus makes it necessary that at least two-thirds of the organ be removed.

The type of lesion sometimes can be better assessed from the roentgen or esophagoscopy appearance than from microscopic study of a tissue sample that may not be representative of the entire process. Other things being equal, the short, primarily constricting lesions may be more amenable to resection. The more proliferating papillary growths, because they are less likely to cause early obstruction, more often progress to lymph node involvement before they are recognized; on the other hand, they are more radioresponsive. The very anaplastic carcinomas—relatively rare—that appear as flat ulcerations extending over large portions of the esophageal wall and cause symptoms through ulceration rather than obstruction are, because of their aggressiveness, less likely to be controlled surgically.

The patient's age should be considered chiefly in terms of preserving his physical and mental reserves. Because esophageal cancer so often occurs in the seventh and eighth decades, and because permanent control is so unlikely at any age, perhaps less emphasis should be placed on control at any price and more on the chief aims of palliation—esophageal patency and avoidance of gastrostomy. For older patients, palliation of this kind, if it can be maintained for a year or two, can be more satisfactory than for younger persons. Regardless of age, the so-called "palliative resection" seems unjustified when, either at exploratory thoracotomy or before, it is found that the growth cannot be entirely removed; the grave morbidity associated with resection is out of proportion to the benefits derived. In about 50 per cent of cases, the esophagus can be reopened by irradiation with much less morbidity.

CANCER OF THE LUNG

Not only lymphatic metastasis but even control of the primary lesion is unusual in cancer of the lung, and cure by irradiation is an unpredictable rarity.

*The author is grateful to Dr. Simeon T. Cantril for permission to use the material of the Tumor Institute of the Swedish Hospital.

Palliation, therefore, might seem more frequently desirable than it is in cancer of the esophagus, but it is even less consistently and less fully achieved. Palliative radiotherapy, however, has a definite though limited place in the treatment of bronchial carcinoma when directed with appropriate technique against certain symptoms.

For therapeutic purposes, two chief types of lung cancer can be recognized and may be differentiated by clinical and roentgen findings: (1) *Epidermoid carcinomas and adenocarcinomas* progress slowly and, if recognized early (usually from roentgen findings, before symptoms have occurred) can be surgically removed with some probability of success. When such tumors have progressed beyond this early, presymptomatic stage they extend along the submucosal tissue into the bronchial wall and involve cartilage and surrounding pulmonary parenchyma. At this stage radiotherapy as well as surgical operation is likely to be unsuccessful even at the primary site because of the recognized difficulty of controlling disease involving cartilage and because the extent of the tumor is so difficult to judge that the necessarily high doses, if applied to a large enough area to assure coverage, will cause excessive damage. However, this does not mean that more conservative radiotherapy may not occasionally be successful. (2) *Undifferentiated carcinomas*, including the oat cell and small round cell types, are highly radiosensitive and can be controlled locally with relative ease, but usually before being discovered they have progressed to larger areas throughout the pulmonary parenchyma and widely involved the regional lymphatics. As most thoracic surgeons now recognize, these tumors, like rapidly progressing lymphomas, are unsuitable for surgical intervention of any type.

Both the indications and the techniques for palliation differ in cancer of these types. The main indication is the mediastinal embarrassment caused by anaplastic tumors through rapid enlargement of mediastinal lymph nodes. These are treated by doses 2,000 to 3,000 r in three to four weeks, but in cases of emergency more rapid results can at times be obtained with intravenously administered nitrogen mustard, which may or may not be followed by cautious radiotherapy. These tumors disseminate so

rapidly that palliation of other symptoms by radiotherapy is rarely worth while.

Inoperable epidermoid carcinomas and adenocarcinomas progress more slowly and do not commonly cause mediastinal embarrassment. Presenting symptoms usually are due to complications following bronchial obstruction, which can be reduced only by rather high dosage—5,000 to 6,000 r in five to six weeks, introduced through small portals and centered well on the obstructing lesion as localized by bronchoscopy, exploration or roentgenography. Occasionally severe bleeding can be stopped by this means. The diffuse thoracic pain often associated with the later invasive stages of these tumors is not benefited by radiotherapy, in the author's experience, but is palliated more effectively by sympathetic nerve block. Only the peripheral nerve pain of Pancoast's syndrome associated with tumors at the brachial plexus can be much relieved for long periods by massive irradiation.

In bronchial carcinoma, the magnitude of any palliative procedure must be measured against the patient's life expectancy and the probable degree and duration of relief. Palliation must be directed to a specific end, not done for the sake of doing something. Prolongation of comfortable life, not of mere survival, is the object.

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A Review of Operations on the Temporal Bone

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THERE SEEMS to be a feeling among young physicians that temporal bone operations are a thing of the past, that mastoidectomy is seldom performed in the antibiotic age. During a 30-month tour of duty at an army hospital,* the author found this attitude quite prevalent among physicians who had just completed their internship in some of our leading educational institutions. The majority of these men had little knowledge of the indications for aural operations. Many had even been taught that myringotomy was fundamentally wrong. It was with these things in mind, and because of the interest in the subject shown by various hospital staff members, that this article was written.

Over a period of 30 months covered by this report, 192 temporal bone procedures were performed by the author. With that as background, an attempt will be made to review the field of surgical otology, with particular attention to the procedures performed most frequently by the author.

Before the advent of antibiotics, operations on the temporal bone were primarily concerned with the control of infection and in many cases the saving of life, with little regard for hearing function. Although control of infection is still of primary importance, the preservation or restoration of hearing (functional otologic operation) has assumed a far greater importance in many of the same kind of cases. Better illumination, magnification and instruments, along with the development of antibiotics, have permitted the introduction or perfection of operations for the restoration of hearing in conditions that have little or no relationship to infection. Today there are few, if any, hearing impairments of conductive type that are not amenable to some form of medical or surgical therapy.⁴

INDICATIONS

Most temporal bone operations are performed for the treatment of acute or chronic middle ear and mastoid infections, otosclerosis and perforations of the tympanic membrane not associated with active infection (Table 1). These will be discussed later.

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- The majority of temporal bone operations are performed for treatment of acute or chronic middle ear and mastoid infection, otosclerosis and perforations of the tympanic membrane.

Far from being a thing of the past, temporal bone surgery is an expanding field in the antibiotic age.

Since treatment with antibiotics may temporarily allay the symptoms of serious disease of the ear, great care must be taken in examination of patients with a suspicious history.

Other less common conditions requiring operation are briefly discussed below:

Tumors. Malignant disease of the mastoid is rare. Tumors of the glomus jugulare, histologically benign, but clinically malignant, frequently involve the middle ear primarily. The prognosis is relatively good if they are treated early. One such case is included in this series. Benign tumors of the external auditory canal and mastoid do occur, but are not common. Three cases of external canal osteomata and two cases of rare epidermoid tumors of the mastoid in which the author operated are reported elsewhere.^{10,11}

Meniere's Disease. Occasionally in Meniere's disease operation may be required because of uncontrolled vertigo. A destructive labyrinthotomy is done.

Facial Nerve Paralysis. Diseases of the facial nerve requiring temporal bone operation fall into two groups: The traumatic and the nontraumatic. Patients with facial nerve paralysis following head injury usually recover spontaneously. Surgical exploration is indicated if there is no sign of return of function within six to eight weeks. In idiopathic

TABLE 1.—Indications for Temporal Bone Operation

Middle ear and mastoid infection:
Acute
Chronic
Otosclerosis
Perforation of the tympanic membrane
Tumors
Meniere's disease
Facial nerve paralysis
Congenital abnormalities:
Congenital footplate fixation
Congenital ear canal aplasia
Miscellaneous:
Nonsuppurative mastoid inflammation
Acquired stenosis



Figure 1.—Congenital microtia and ear canal aplasia.
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The Laryngoscope, Vol. 63, October 1953.)

(Bell's) palsy, nonsurgical therapy should be begun at once, and decompression is indicated if return of function is not evident within eight weeks.⁷

Congenital Abnormalities. Congenital ossicular abnormalities causing conductive hearing losses in otherwise normal ears are being recognized more frequently. The most common of these is congenital stapes footplate fixation.⁵ This, along with congenital ear canal aplasia (Figure 1), is amenable to surgical correction with resultant hearing improvement.

Miscellaneous. Occasionally operation is necessary in a case of nonsuppurative middle ear and mastoid inflammation.¹² The present series also included two cases of idiopathic hemotympanum, treated by simple mastoidectomy, and one operation for repair of traumatic external auditory canal stenosis.

ACUTE MASTOIDITIS

Acute surgical mastoiditis, requiring simple mastoidectomy, was at one time the mainstay of the otologist's surgical practice. Since the advent of antibiotics the situation has changed. This is not due to any ability of antibiotics to cure mastoiditis or to prevent complications, but rather to the decrease in incidence of severe acute otitis media and the ability of physicians to prevent surgical mastoiditis by proper early treatment. Among otologists there is general agreement that proper early treatment means early myringotomy and use of antibiotics.^{1,3,9} The dangers inherent in the nonsurgical concept of treatment of acute suppurative otitis media should be stressed. Goodale and Montgomery³ noted that the majority of patients with acute surgical mastoiditis had not had early myringotomy.

Acute surgical mastoiditis still occurs but the problems of diagnosis now are greater due to the masking effect of antibiotics.⁸ In the past, the patient often was acutely ill and had a relatively typical

history and findings indicating operation, occasionally as a life-saving measure. Now, it is not unusual to have the patient afebrile and ambulatory, as in the case of the five patients (six operations) in the following reports.

CASE 1. The patient, a four-year-old child, was said to have taken an oral antibiotic for five days because of an ear infection. She was then asymptomatic. When first examined, a month later, she was afebrile and apparently generally healthy. A subperiosteal postauricular abscess that displaced the auricle laterally was observed. The posterior superior canal wall sagged, and the tympanic membrane was retracted. There was no leukocytosis or accelerated sedimentation rate. Operation was carried out, the abscess was drained and edematous granulation tissue was removed from the mastoid cells. No organism could be cultured.

The diagnosis was: Mastoiditis with postauricular abscess, masked by antibiotics.

CASE 2. A 19-year-old man reported that he had had intermittent earache for three months, treated with "ear drops" and salicylates. Three weeks before admission he had fever, acute ear pain, suppurative discharge from the ear and swelling of the external canal, associated with decided postauricular tenderness. Numerous antibiotics were given in large doses and the symptoms subsided over a period of six days. Convalescence was satisfactory for ten days thereafter, the discharge gradually diminishing. There was then a one-day episode of fever (104° F.) and chills.

When the patient was first examined the temperature was 103°F. but remained normal thereafter. The only complaints were of slight weakness and mild pain behind the right ear and above the right eye. Results of neurological examination were within normal limits. The tympanic membrane was retracted and there was granulation tissue external to it posteriorly. An exploratory postauricular mastoidectomy was performed. The mastoid was filled with infected granulation tissue and there was partial destruction of the posterior ear canal wall. Adjacent to the sigmoid sinus was an epidural abscess containing about 30 cc. of pus. No organism grew on a culture of this material. The postoperative course was uneventful.

The diagnosis was: Masked mastoiditis with posterior fossa epidural abscess.

CASE 3. A six-year-old child was referred because of right otitis media of two weeks' duration that had not responded to antibiotic therapy. A large polyp occluded the external canal, protruding through a fistula in the posterior bony canal wall. Hemolytic *Staphylococcus aureus* (coagulase-positive) was cultured and erythromycin therapy was initiated. At

simple mastoidectomy the entire cellular system was observed to be filled with infected granulation tissue. The postoperative course was uneventful.

The diagnosis was: Mastoiditis masked by effect of antibiotics.

CASE 4. A one-year-old girl was referred because of bilateral acute otitis media and right facial nerve paralysis. Three and a half weeks before admission, fever and right facial weakness had developed. Bilateral otitis media was diagnosed and penicillin and oxytetracycline were prescribed. The patient was admitted to another hospital seven days later and treated by repeated bilateral myringotomy and administration of erythromycin and chloramphenicol. Discharge of pus (hemolytic *Staphylococcus aureus*) continued from both ears. There were no systemic signs of infection.

Examination showed a healthy appearing child with a complete right facial nerve paralysis. There were bilateral central inferior tympanic membrane perforations, discharging pus, with redness and sagging of the posterior superior canal walls. At bilateral simple mastoidectomy pus under pressure was noted, and there was granulation tissue filling the mastoid cells. Suppuration continued postoperatively despite erythromycin therapy. A culture again demonstrated hemolytic *Staphylococcus aureus*, sensitive to erythromycin. There was immediate improvement following initiation of penicillin therapy, and the child was discharged from the hospital 22 days after operation. The facial nerve paralysis was diminishing slowly.

The diagnosis was: Bilateral mastoiditis masked by antibiotics, with facial nerve paralysis.

CASE 5. A seven-year-old boy had been hospitalized elsewhere two months previously because of acute otitis with suppurative discharge, associated with high fever and postauricular tenderness. Symptoms subsided under antibiotic therapy, but the discharge continued. When the patient was first examined there was sagging of the posterior superior canal wall and a seropurulent discharge issuing from a central inferior perforation. Hemolytic *Staphylococcus aureus*, coagulase-positive, was cultured. Simple mastoidectomy was done and the mastoid was observed to be filled with infected granulation tissue. The bone adjacent to the sigmoid sinus had been destroyed, and an extradural pocket of granulation tissue was observed. This condition was residual from a posterior fossa epidural abscess. All diseased tissue was removed. Convalescence was uneventful.

The diagnosis was: Mastoiditis with posterior fossa abscess, masked by antibiotics.

The patients in the foregoing cases had acute mastoiditis masked by antibiotics; that is, the clinical signs were suppressed despite progression of the

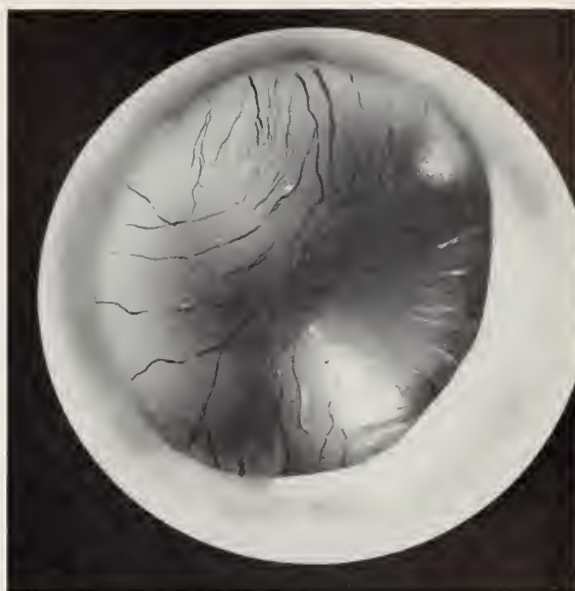


Figure 2.—Bulging right tympanic membrane in acute otitis media.

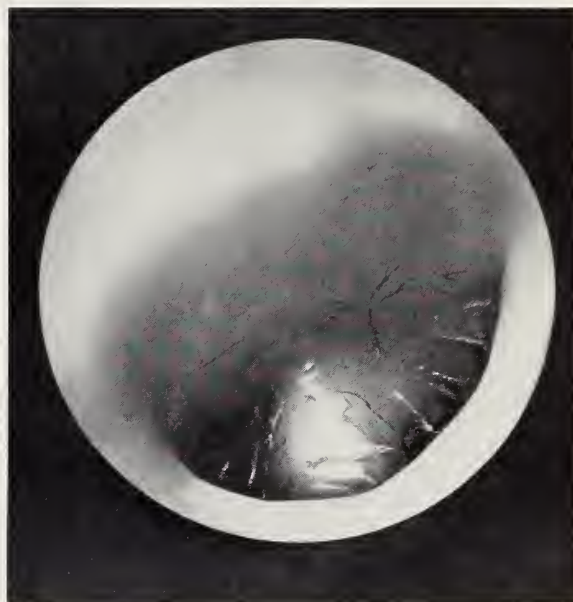


Figure 3.—Bulging right tympanic membrane and edema and sagging of posterior superior canal wall in acute mastoiditis.

disease in the temporal bone. In two cases intracranial extension developed despite antibiotic treatment. When the patients were first seen there was little to indicate the seriousness of their disease. Only one of the patients (Case 4) gave a history of reasonably adequate treatment, consisting of myringotomy and specific antibiotic therapy based on reports of culture and sensitivity. This specific therapy is very important, particularly when dealing with organisms such as hemolytic *Staphylococcus* (Cases 3, 4

and 5). With the exception of the patients in Cases 2 and 3, all had a redness and sagging of the posterior superior canal wall. This sagging and redness, along with bulging of the tympanic membrane and indistinctness of the tympanomeatal junction, are indications of periostitis and bone disease (Figures 2 and 3). For this condition, simple mastoidectomy is indicated. Use of antibiotics will not cure mastoiditis which has advanced to this point; it will only cloud the clinical picture.

Chronic Suppurative Otitis Media

Chronic discharge of purulent material from the ears may be considered under two general headings: The benign type and the potentially dangerous type. Although generalizations such as this are in themselves potentially dangerous, this division is a useful one for purposes of discussion.

The so-called benign type frequently does not require operation at least for control of infection. In this type the ear has a central inferior tympanic membrane perforation with intermittent discharge of a mucoid or mucopurulent material (Figure 4). Discharge is usually initiated by an upper respiratory infection or by the introduction of water into the ear. This intermittent discharge, and a mild to moderate nonprogressive loss of hearing, are the only symptoms. "Nonsurgical ear" is a term often used for this condition because treatment must frequently be directed primarily at the sinuses, nasopharynx and eustachian tube, and to control of any underlying allergic disease. Acute bacterial infection of the middle ear is found only as a temporary complication and does not in itself represent the fundamental problem. The term "nonsurgical ear" has become somewhat obsolete, of course, since the advent of tympanoplasty and myringoplasty, which will be discussed later.

In contrast, in the case of the potentially dangerous type of chronically discharging ear, operation usually is necessary for control of infection. This is the so-called "stinking ear" with a continuous or intermittent malodorous discharge, occasionally bloody. Although the hearing may initially be quite normal, there is a gradually progressive loss of hearing with continued suppuration. The perforation is usually in the superior or posterior superior quadrant and not infrequently is associated with a polyp or granulation tissue (Figure 5). This is a difficult perforation to see and may be overlooked if the examiner is not very thorough. Failure to realize the significance of the history along with failure to see the perforation, will often result in prolonged treatment for "external otitis" that does not exist.

In cases of this type the disease is due to an ingrowth of squamous epithelium around a perforation, resulting in a skin-lined pocket in the mastoid

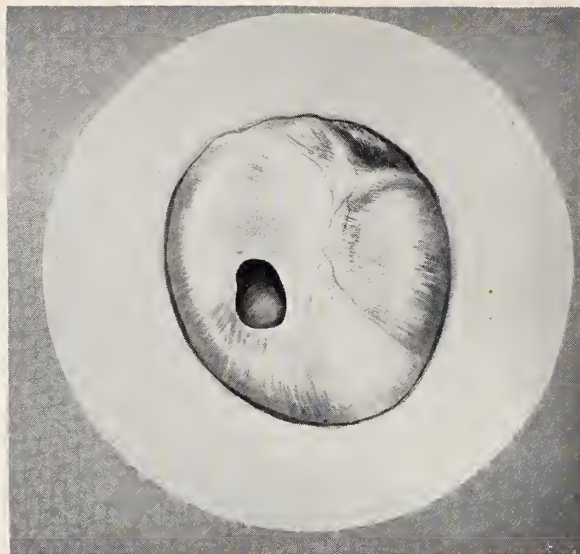


Figure 4.—Central right tympanic membrane perforation.

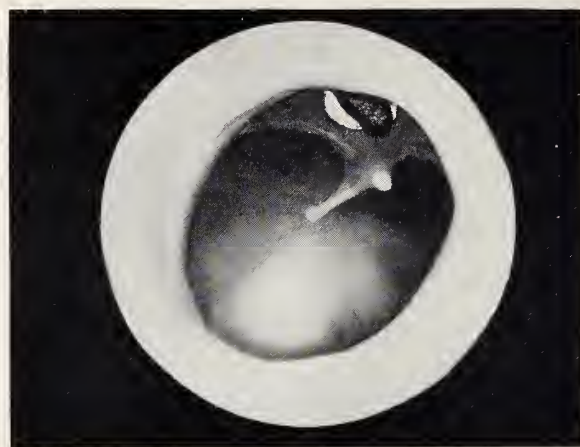


Figure 5.—Pars flaccida tympanic membrane perforation (right) with granulation tissue protruding from cholesteatoma.

which is continually or repeatedly infected. When this occurs a cholesteatoma forms. The condition is potentially dangerous because, without treatment, eventually in some cases labyrinthine fistula will develop, resulting in severe vertigo, facial nerve paralysis or intracranial extension of the disease. Loss of hearing will develop eventually in all such cases.

Generally speaking, any patient with acute or sub-acute discharge from the ear which does not respond to vigorous conservative treatment within a period of four to six weeks, should be considered for mastoid operation. This is particularly true when the ear is of the potentially dangerous type. It is difficult to justify the attitude of some otolaryngologists who tend to minimize the potential seriousness of disease of this type and carry on prolonged so-called conservative treatment when it has become quite ob-

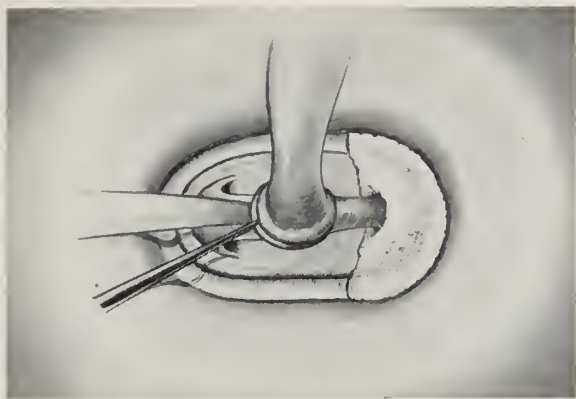


Figure 6.—Stapes fixed by otosclerotic bone (surgeon's view).

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vious that operation is indicated. Conservative (but complete) mastoid operation will result in an ear that is no longer dangerous, and, in the vast majority of cases, a dry ear. Fortunately, those with serviceable hearing will usually maintain this hearing. Those with unserviceable hearing may have their hearing greatly improved by reconstruction of the middle ear and sound-conducting mechanism (tympanoplasty).

During the 30-month period covered by this report, 45 modified radical and three radical mastoidectomies were performed for control of chronic ear infection. Cholesteatomas were present in 85 per cent of this group. Twenty-four of the patients had serviceable hearing before operation and it was maintained afterward. Of the 24 patients with unserviceable hearing before operation, eight had their hearing improved to the serviceable level. In all but one case the aural discharge stopped after operation.

SURGICAL TREATMENT OF OTOSCLEROSIS

Otosclerosis is a disease of the bone of the inner ear resulting in stapes ankylosis (Figure 6). It is characterized clinically by a gradually progressive conductive hearing loss, usually bilateral, associated with tinnitus. Symptoms first develop in young adulthood and there are no objective physical findings.

Until a few years ago the only surgical treatment that could be offered was the fenestration operation,² a modified radical mastoidectomy in which a fistula is created into the horizontal semicircular canal and covered with a pedicle skin graft. Sound may then enter the inner ear by way of this new window, by-passing the fixed ossicular chain. The operation results in permanent, practical hearing in 80 per cent of cases, but hearing is never restored

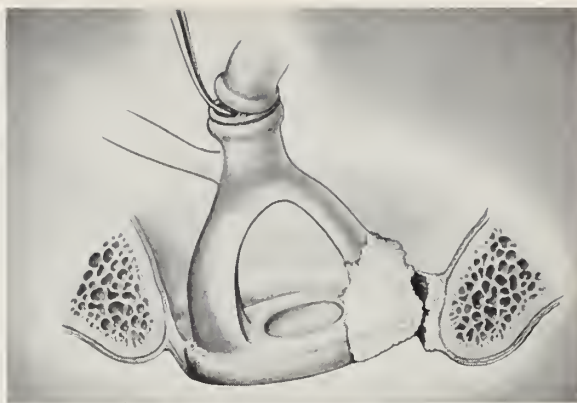


Figure 7.—Stapes mobilized (side view).

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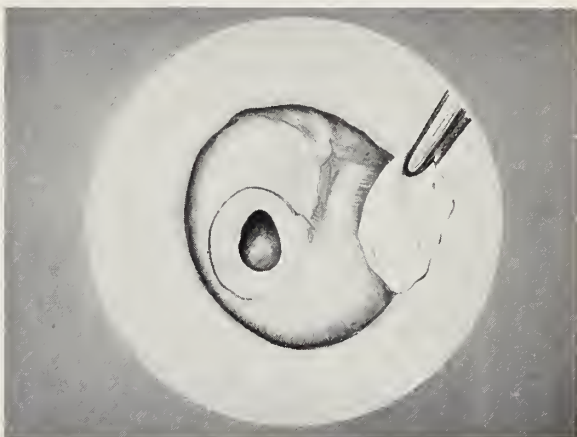


Figure 8.—Skin graft being applied to right tympanic membrane perforation in myringoplasty (compare with Figure 4).

to normal. Although the fenestration operation has been performed widely in civilian life, it has not generally been recommended for military personnel because of the extent of hospitalization and after-care, and the fact that the hearing result is often not satisfactory for full military duty. In the military services the practice has been to issue a hearing aid.

Within the last few years the stapes mobilization operation has been reintroduced by Rosen and has gained wide acceptance.⁶ By contrast with the fenestration operation this technically more difficult procedure is a relatively minor one for the patient. It is performed under local anesthesia, requires only a few days' hospitalization and very little after-care, and the results are very gratifying (Figure 7). It is now generally agreed that stapes mobilization is the operation of choice, despite the fact that permanent, practical hearing is obtained slightly less frequently than with the fenestration. Fenestration can be performed later if mobilization is unsuccessful. From the military standpoint mobilization is a very satis-

factory procedure: Hospitalization and after-care are brief; intermittent discharge from the ear following operation is rare, as contrasted with fenestration; and the patient need have no fear of getting water into the ear canal.

During the last 12 months of the period covered by this report, 114 stapes mobilizations were performed. Eighty-six of the patients were observed periodically for four months or more and 63 of them showed a significant hearing improvement, 23 being restored to essentially normal hearing.

RECONSTRUCTIVE OPERATION ON THE MIDDLE EAR

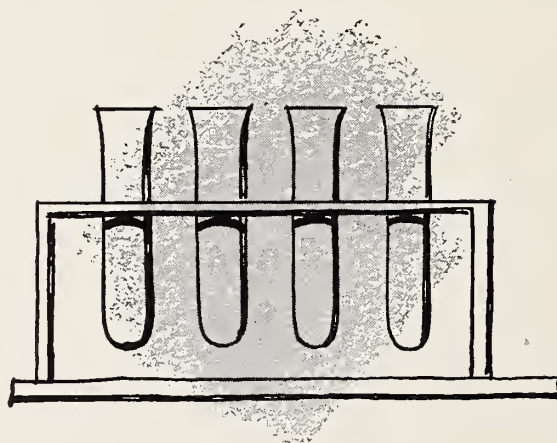
For years otologists have been cauterizing the edges of dry tympanic membrane perforations and then applying prosthetic devices to attempt repair of the perforation and hearing improvements.¹³ Attempts have been quite successful at times but treatment has often been prolonged. Although skin grafts have been used for this purpose sporadically, it was not until recently that the concept of tympanoplasty was presented in a systematic form.¹⁴ This has opened a whole new field in otologic surgery. Anyone with a perforation of the tympanic membrane, be it large or small, is a candidate for this reconstructive operation on the middle ear, provided inner ear function is satisfactory. This can only be determined by careful otological examination and hearing tests. With closure of the perforation by myringoplasty (skin graft on the tympanic membrane) essentially normal hearing may be restored, and intermittent drainage will cease to be a problem (Figure 8). In tympanoplasty, disease is eradicated by radi-

cal mastoidectomy, then a new tympanic membrane and middle ear space are created by use of a skin graft.

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Tympanotomy

Exploratory "Laparotomy" of the Middle Ear

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DESPITE GREAT PROGRESS in the knowledge of the physiologic principles and of pathologic changes in hearing and despite considerable advances in methods of testing and analyzing hearing losses, there are still patients with conduction deafness or mixed deafness in whom the exact nature of the damaging process can only be surmised. Occasionally these patients present a middle ear problem that can be resolved only by direct inspection.

With the demonstration by Rosen^{1,2,3} of the technique of tympanotomy for stapes mobilization, a relatively simple surgical means has become available for exploration of the middle ear in these diagnostic problem cases. The term "simple" in connection with tympanotomy refers only to the ease with which the procedure is tolerated by the patient. For the surgeon, mastery of tympanotomy requires considerable time in the anatomy laboratory and much practice in the use of the operating microscope. The procedure is done under local anesthesia. Since the nerve supply of practically the entire area to be explored can be reached by injection of the superior, posterior and inferior portions of the external auditory canal, I have abandoned the anterior injection included by Rosen in his original technique.

In order to illustrate what may be accomplished by exploratory tympanotomy two cases have been selected from a series of 200 in which I have operated by the tympanotomy approach for stapes mobilization, myringoplasty, tympanoplasty, etc.

The first patient, a man 33 years of age, was examined at the request of another otolaryngologist because of unilateral conduction deafness (Figure 1). The patient had a history of ear difficulty in childhood and was not certain about a possible hearing loss before World War II. He knew definitely, however, that when his ship exploded while he was on Navy duty during the war he had severe deafness in the right ear. There was no history of discharge from the ear and the drum membrane on examination was perfectly normal. The result of

• In some cases of conduction deafness or mixed deafness, direct inspection of the area believed to be involved is the only means by which diagnosis can be made with certainty. This can be done by a method of tympanotomy that is used for stapes mobilization. The necessary exposure is done with local anesthesia, is not painful, is well tolerated by the patient and requires only two days in hospital.

Reparative procedures may be carried out as indicated.

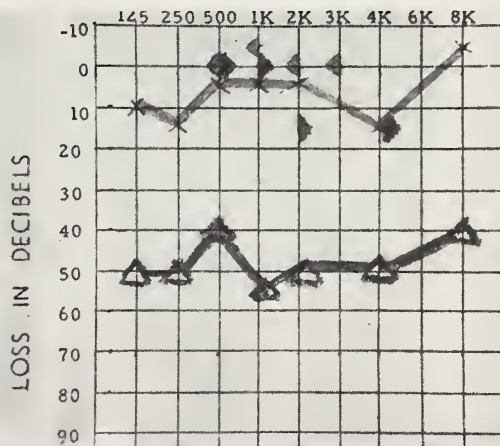


Figure 1.—Preoperative audiogram (Case 1). Left ear conduction deafness with decided bone-air gap.

Rinne's test was negative in the right ear and the Weber test lateralized to the right. While the 64-cycle tuning fork was not heard in the right ear, the Lewis test was negative for stapes fixation. In view of the audiometric and clinical findings and the presence of partial recruitment it was felt the patient had unilateral otosclerosis with some cochlear damage. The patient requested surgical treatment because as an attorney he had considerable difficulty in court when opposing counselors were seated on his deaf side. A right tympanotomy was done on August 3, 1957. At operation, the capitulum of the stapes was found to be smooth and rounded and the long process of the incus was bound to the inner surface of the drum membrane by fibrous adhesions (Figure 2) and was completely separated from the stapes. The incus was carefully

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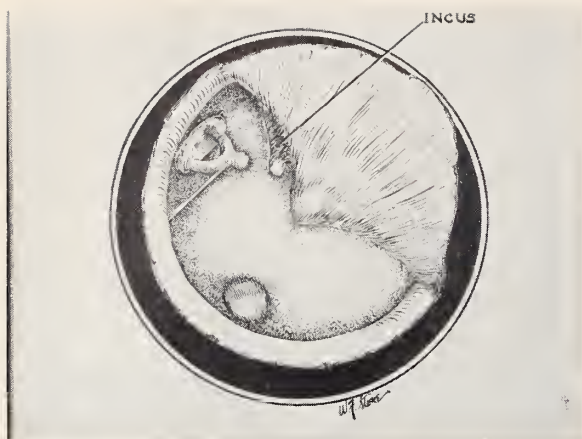


Figure 2.—Appearance of middle ear at tympanotomy (Case 1).

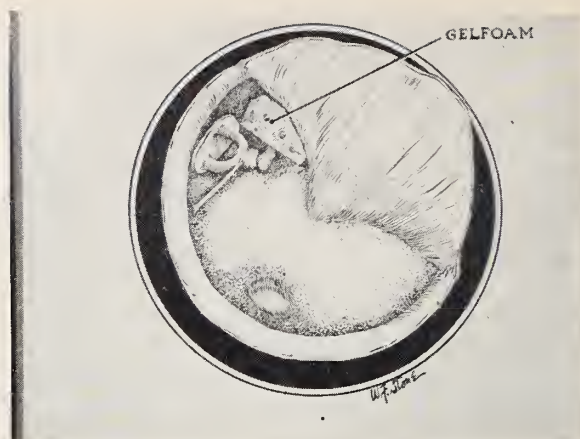


Figure 4.—Gelfoam to maintain approximation of incus and stapes.



Figure 3.—Incus re-approximated to stapes.



Figure 5.—Drum membrane replaced and gelfoam in canal to maintain drum position.

freed from the drum and readily brought back into articulation with the stapes (Figure 3). Palpation of the stapes disclosed it to be completely mobile and the patient noted immediate hearing improvement on contact of the capitulum of the stapes with the palpating instrument. The articular surface of the stapes was lightly scarified with a fine needle before the incus was placed in contact with it. Then a small piece of gelfoam was placed between the incus and the drum membrane (Figure 4) and the drum membrane was replaced.

Another piece of gelfoam was placed on the outside of the drum membrane to secure it in place (see Figure 5). Recovery was uneventful. Two months after operation the hearing in the right ear was excellent (Figure 6), although there was a high tone loss, probably owing to acoustic trauma from the original blast injury, which undoubtedly was the cause of the incudo-stapedial separation. The hearing when tested a year and a half after operation was excellent. The patient had had no difficulty

with the ear and was most pleased with his hearing for speech.

The second patient, 50 years of age, the mother of a physician, was first examined by the author in July, 1957. She had had a right mastoidectomy in childhood. Some five years before the time of the present report, loss of hearing developed in the left ear. The patient had consulted several otologists, both while her son was in medical school and after his establishment in practice. A diagnosis of glomus jugulare of the middle ear had been suggested. On examination a post-auricular mastoidectomy scar was noted on the right. The drum membrane in the right ear was intact. The left drum seemed rather dull, with some posterior fullness. There was, however, no pulsation and no redness such as one might expect from a glomus tumor. There was a suggestion of fluid anteriorly and superiorly in the middle ear, which certainly seemed unusual. Eustachian inflations in the past had reportedly helped the hearing. The Rinne test reaction was negative in the left ear

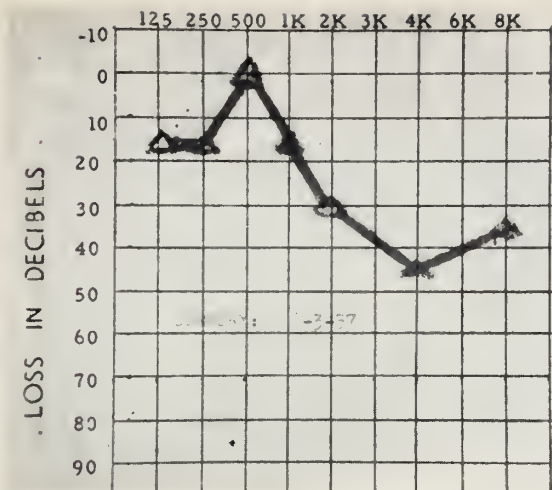


Figure 6.—Post-operative audiogram, left ear (Case 1).

and equal in the right. Lateralization was questionable. The patient proved to be very difficult to test audiometrically. The tests were done both in my office and at the University of California Audiology Department. The conduction hearing loss in the right ear was believed to be associated with the previous mastoid operation. There certainly was an adequate air-bone gap in the left ear. I learned that the patient had had an aspiration myringotomy of the left ear, done by a very skillful otologist, in 1956 and had had much pain. Normally in serous otitis this procedure is painless. I, too, attempted aspiration of possible fluid in the left ear and the needle entered something of a slightly softer consistency than raw potato. The insertion was painful and no fluid was obtained. On August 31, 1957, left tympanotomy was done under local anesthesia. A papillomatous-appearing tumor was found in the middle ear (Figure 7). Excision of a biopsy specimen was very painful, but the recovery from tympanotomy was uneventful. On September 30, 1957, under general



Figure 7.—Appearance of meningioma at tympanotomy (Case 2).

anesthesia the tympanotomy was repeated at the University of California Hospital and a tumor about 1.5 cm. in diameter, with narrow stalk, was dissected free from the middle ear. The exact point of attachment could not be determined. The pathologist's diagnosis was: "Meningioma, meningiotheliomatous type, left middle ear." The stapes was found intact at operation, but no incus could be seen. Recovery from this procedure was again uneventful but there was no hearing improvement at last examination some 16 months after operation.

This patient had had a carcinoma of the breast removed several years before the onset of deafness in the left ear.

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Surprises in Hernial Sacs

Diagnosis of Tumors by Microscopic Examination

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FOR SEVERAL YEARS I have observed, in various laboratories, the questionable practice of regarding surgically excised hernial sacs as rather dull "routine" specimens. Examination is often limited to superficial examination of gross material. Yet such practices may be treacherously inadequate, for the sacs are not always innocuous postoperative residue. Justification for the policy of our laboratory of preparing histologic sections of all hernial sacs is provided by the following five examples.

CASE 1. A 77-year-old man underwent repair of a reducible right inguinal hernia at the Veterans Administration Hospital, San Francisco, in July 1957. He reported a previous operation for "a tumor" but the records were not currently available to further qualify the nature of this illness. In a preoperative physical examination, including roentgen studies with barium enema, no evidence of active disease was observed. The surgical specimen was a wrinkled membrane, 2 x 0.5 x 0.5 cm., showing no unusual features. Histologically, however, an unsuspected implant of adenocarcinoma was observed in the hernial sac wall. Subsequent clinico-pathologic correlation indicated removal of an adenocarcinoma of the colon 16 months previously at another hospital (Figures 1 and 2).

CASE 2. A 61-year-old man had a left inguinal hernia repaired at the Veterans Hospital in February 1958. The hernia had been present three years. The patient's health was generally good with the exception of transient obstruction of urinary flow, attributed to an enlarged prostate. The surgical specimen consisted of two filmy membranes and 28 gm. of fat. Upon histological examination of the membranes nests of malignant cells in a pattern suggestive of adenocarcinoma were seen below the mesothelial surface. The primary site had not been determined at the time of this report although roentgenograms showed evidence of enlargement of multiple pulmonary nodes.

CASE 3. In March of 1957 a woman 57 years of age had elective repair of a right inguinal hernia

• Careful microscopic examination of excised hernial sacs would appear to give evidence of neoplastic disease—often unsuspected otherwise—in a sufficient proportion of cases to warrant this exercise of thoroughness. In five cases herein described, valuable information was obtained by this means.

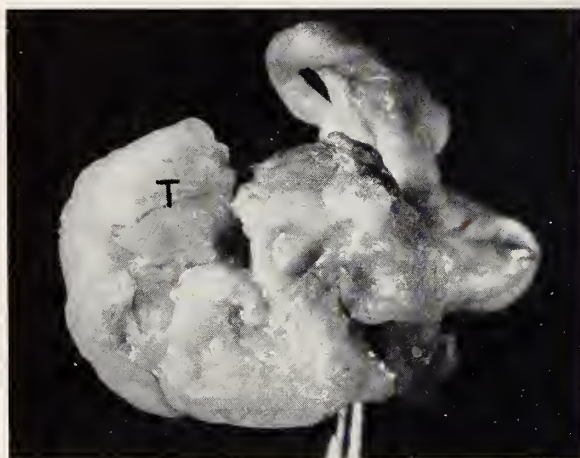


Figure 1.—Gross hernial sac as removed from formalin fixative (Case 1). Enlarged six times. Tumor nodule (T) is indistinguishable grossly from adjacent globules of properitoneal fat.

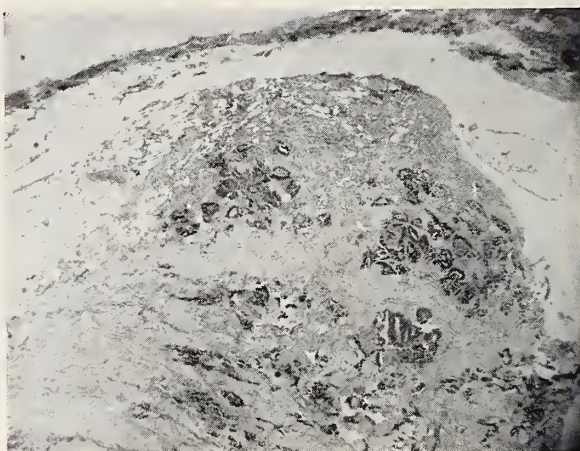


Figure 2.—Microscopic view of section of tumor nodule (Case 1), showing well differentiated adenocarcinoma (hematoxylin-eosin stained, $\times 37$).

From the Laboratory Service of the Veterans Administration Hospital, San Francisco 21.

Submitted April 8, 1959.

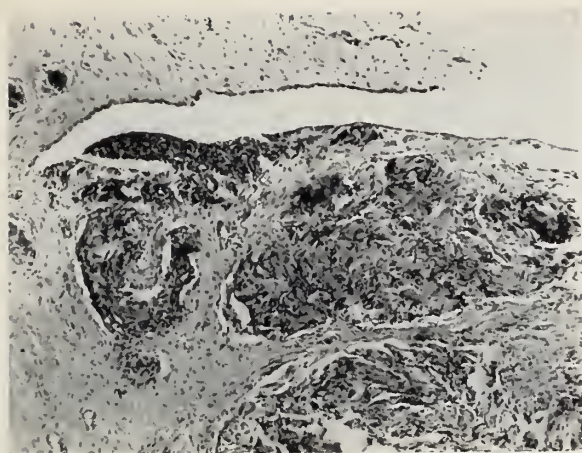


Figure 3.—Microscopic section showing fibrous type of presumably benign mesothelioma (Case 4). Note proliferative transformation of surface mesothelium. Hematoxylin-eosin stained, $\times 37$.

at St. Luke's Hospital, San Francisco. The gross hernial sac specimen showed a few yellowish-white elevations on the smooth surface, the largest being 0.7 cm. in maximum dimension. Microscopically sections of these elevated areas were seen as well differentiated implants of adenocarcinoma. A week later the abdomen was explored and the primary neoplasm, a cystadenocarcinoma of the right ovary, was removed.

CASE 4. The patient, a man 55 years of age in generally good health, entered St. Luke's Hospital, San Francisco, in May 1957 for repair of a right inguinal hernia. Gross examination of the removed hernial sac showed a few tiny excrescences on the mesothelial surface. Histologically these multiple growths had the pattern of fibrous mesothelioma originating locally and presumably benign (Figure 3).

CASE 5. A 68-year-old man had left inguinal herniorrhaphy at the VA Hospital, San Francisco, in August 1957. The gross specimen was composed of three pieces of gray membrane and two fragments of fat, the largest piece being 8 x 3 x 2 cm. Six random sections were examined. Microscopically, the hernia sac showed cuboidal metaplasia of the mesothelium; and set amidst peritoneal adipose tissue was a nodule of perfectly formed adrenal cortex.

DISCUSSION

In two of the above examples (Cases 2 and 3) latent carcinoma was detected solely by histologic study of otherwise "routine" hernial sac tissue. In Case 1, histologic methods provided positive evidence of recurrence of cancer in advance of clinical

manifestation. In Case 4, a rare neoplasm was diagnosed only because the hernial sac was minutely examined and proper sections taken. In all of these instances important clinical information was obtained.

In the performance of indirect herniorrhaphy tissue is removed from the body in 97.7 per cent of cases.⁹ It would seem almost certain that of the thousands of hernial sacs received by pathologists every year, a certain proportion, admittedly small, will be made up of more than prosaic fat, connective tissue and mesothelium. From the statistical information available, the most serious morphologic hernial sac abnormality, neoplastic disease, is rare. The surgical pathology catalogue at the Veterans Administration Hospital in San Francisco, containing over 800 sections of hernial sac tissue filed since 1948, holds only two examples of tumor (reported herein) plus one of malignant mesothelioma which is not considered here because its nature was fully appreciated before operation. Communication with the Armed Forces Institute of Pathology in August 1957 indicated that its vast files held records of only five benign hernial sac tumors and none of malignant.

Pertinent literature is likewise sparse. Standard textbooks of surgery and even monographs on hernia usually pass over neoplastic complications in silence. Although the first example of tumorous hernia was recorded over 200 years ago,¹ Gros-Devaud's comprehensive review in 1903 listed only 15 acceptable cases plus one original example. More recent reports have indicated that metastasis to hernial sacs has arisen in such primary sites as the large bowel,^{3,4,8} stomach,² bladder,¹⁰ pericardium,¹³ tonsil,¹³ and skin (disseminated melanoma).⁵ In most such cases, metastasis was by transperitoneal spread to hernial sacs. Melanomas, however, probably arrive through vascular channels. Such focal, nodular implants in hernias are to be distinguished from instances of tumor involvement in which a neoplastic viscus lies incarcerated in the sac or direct extension of a local tumor has occurred. As a rule the former come as surprises when the sac is properly examined whereas the latter are usually obvious at the time of preoperative physical examination.

There have been reports of primary hernial sac tumors,^{3,7,14} usually myxoid in appearance and many of them classified as sarcomas. Some observers are probably correct in maintaining that at least some of these bizarre tumors really are atypical patterns of metastatic adenocarcinoma.^{6,11} Less controversial is the fact that primary mesotheliomas can occur in hernial sacs. Our limited experience with two cases of malignant mesothelioma (one in a hernial sac) urges caution in prognosis, even if the

tumor shows the pattern of the so-called "benign fibrous" variety (Case 4). There is no definite indication that mesotheliomas have a greater tendency to arise in the "irritated" tissue of a hernial sac than from other mesothelial surfaces.

As to non-neoplastic abnormalities in hernial sacs (Case 5), little need be said other than that more often than not they are but academic curiosities. Adrenal cortical tissue has been observed on a number of occasions in hernial sacs, and it is said to be present in the sac in 1 per cent of children who have repair of inguinal hernia.¹² Watson's monograph also mentioned esoterica such as helminthic parasites in hernias. Pagliani⁸ cited observation of decidual change in this location in one case.

Hernial sacs are peritoneal biopsy specimens. Although discrete foci of neoplastic disease are seldom seen in them, this fact alone does not justify omitting to look for it by ordinary laboratory methods, including microscopic examination of representative sections.

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ACKNOWLEDGMENT

The author thanks Dr. Melvin Black, Pathologist of St. Luke's Hospital, San Francisco, for supplying data for Cases 3 and 4.

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California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposia in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 1, 1959.

Recurrent Carcinoma of the Rectum

Surgical Treatment

B. RICHARD JACKSON, M.D., and WILLIAM H. DANIEL, M.D., Los Angeles

ONE OF THE MOST baffling problems in modern surgical therapy is the treatment of recurrent carcinoma. Treatment is highly individualized, variations depending on multiple, specific factors and findings. In a large majority of patients the primary concern is the relief of symptoms. Secondarily and hopefully, in full recognition that the survival or curability rate will be extremely small, it is to prolong life. In each case decisions must be made as to how much or how little to do. It is the purpose of this presentation to discuss the common types of recurrence following operations for carcinoma of the rectum and the various surgical procedures that are employed in the treatment.

Most surgeons treating large numbers of patients with carcinoma, come to the realization that, irrespective of the type, size, location or extent of the lesion only a generalized guess can be made as to its future behavior. This individuality of carcinomas necessitates individualized methods of treatment. Therefore, successful treatment of any carcinoma, primary or recurrent, depends not only on the experience, judgment and limitations of the surgeon and the condition of the patient, but apparently also on factors of which we have little knowledge and cannot control. Whether there actually exist variations in host resistance or biologic predeterminism⁵ of neoplasms makes little difference in our current methods of treatment. Since we have no control of these unknown factors, we must fit the treatment to the circumstances in each case on the basis of our present limited knowledge.

Often patients return with obvious recurrence and evidence of distant metastasis. X-ray studies may show pulmonary or bony involvement. The liver may be enlarged and there may be ascites, or there may be other signs of obvious generalized carcinomatosis. Except to prove the diagnosis, there can be few if any indications for operations in these patients. Yet it should be emphasized that even in these cases it is mandatory to prove the findings are the result of recurrent carcinoma. There can be no excuse for overlooking or misdiagnosing a primary carcinoma of the lung, for example, or hepatic cirrhosis or other entirely unrelated disease.

There are other cases, however, in which there are

• Following operations on the rectum for carcinoma, approximately half of the patients have recurrence in the perineum, pelvis, abdomen or at the suture line of anastomosis. The prognosis is almost uniformly poor and although the problems of management are complicated, dealing with them may give the patient worthwhile physical, emotional and economic benefits. Surgical procedures used in the treatment of the common types of recurrence are discussed.

signs of recurrence but definite indications for operation—palpable masses, pain, bleeding, signs of obstruction, lesions or suspicious conditions visualized sigmoidoscopically or in x-ray studies. Once the diagnosis has been established, careful thought must be given to whether some surgical procedure might reasonably be expected to benefit the patient or might only increase his illness or hasten his death. Many patients with recurrent carcinoma seem to have a rapid deterioration of condition after surgical intervention. Crile² expressed belief that even simple laparotomy in some patients may speed the dissemination of cancer. In studies currently being carried out on the dissemination of cancer in animals, controlled experiments have given evidence that the stress reaction initiated by simple skin incisions increases the growth and dissemination of cancer.

As to the opinion that the wide removal of invaded lymph nodes seems to hasten the spread of the disease by removing natural lymph barriers, we have observed patients in whom this apparently was the case, yet there were others in whom the disease appeared to be retarded or unaffected. The continuing argument as to the choice between conservatism and super-radicalism in operations for cancer probably cannot be settled until some accurate method can be found for determining the individual biologic characteristics or metastatic potential of each tumor. Meanwhile each surgeon treating each patient must be guided by his experience and his clinical impressions, tinted with optimism and the promise of tomorrow. Although current methods of treatment are in the main unsatisfactory and unrewarding, to avoid any tendency toward under-treatment we have adopted the attitude so ably expressed by Ferguson³ that the patients should be treated with the idea of doing the most good, not the least amount of harm.

Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22-25, 1959.

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From this hopeful point of view it is obvious that the early diagnosis of recurrent carcinoma is of the utmost importance. Hence, regular periodic post-operative examinations are advisable. If there is to be recurrence, it is most likely to happen in the first two years. If the surgeon has a firm understanding with each patient from the beginning as to the necessity for these examinations, a high proportion will return regularly. We feel strongly that sigmoidoscopy or colonoscopy should be carried out in addition to a careful examination of the abdomen, pelvis and perineum. Also x-ray examinations of the colon should be done at regular intervals of a year or two.

The rectum is the most frequent site of carcinoma in the gastrointestinal tract. Regardless of the level of the lesion in the rectum, the most commonly employed surgical treatment is combined abdomino-perineal resection with permanent abdominal colostomy. A common site of recurrence is the perineum. Frequently the lesions are entirely local, involving only the scar, and wide excision can be curative. Sometimes when there is merely a suspicion of a mass, exploratory incision is necessary to confirm a diagnosis of recurrence. The technique of excision used in such cases resembles that used in dealing with malignant disease of the breast. First the exploratory incision should be closed in order to prevent recurrence from desquamation in the wound. Then, after a change of gloves and instruments, wide excision is performed, the wound flushed with Chlorpactin (monoxyl chlorosene) or nitrogen mustard and left open to granulate and heal by secondary intention. If the tumor is anterior, excision of the posterior vaginal wall usually is necessary in women, and in men it may be necessary to do a wide dissection of the anterior triangle and resection of the prostate. Persistence of a sinus tract or failure of the perineal wound to heal should arouse suspicion of recurrence. In these circumstances exploration is in order, and wide excision if indicated. If the lesion is too extensive for complete excision, we leave a catheter deep in the wound, surrounding it with loose gauze packing, for instilling 30 mg. of nitrogen mustard daily for three successive days. In one case in which there was obvious extension of the perineal recurrence into the bladder, complete healing of the perineum followed this procedure and the patient had no further complaints for 19 months of observation up to the time of this report.

Not infrequently suspicion of recurrence is first aroused by colostomy dysfunction or intermittent signs of obstruction. If recurrence is found at laparotomy, there can be little hope of cure. Commonly in such cases a loop of small bowel is bound down and obstructed by dense carcinomatous masses. Often the masses involve the bladder or ureter. When the loop of bowel can be resected without

vigorous handling or the risk of damage to adjacent vital structures, resection and anastomosis is performed. If resection entails laborious and risky dissection with probability of scattering viable cancer cells, a short-circuiting procedure, enteroenterostomy or enterocolostomy, in a relatively cancer-free area of the abdomen is the procedure of choice.

For carcinomas occurring in the middle of the upper rectum, many surgeons are using sphincter-saving procedures, either the abdomino-perineal proctosigmoidectomy (pull-through procedure) or the anterior resection with low primary anastomosis. One less obvious advantage of the use of either procedure is the possibility of earlier detection of local recurrence by digital or sigmoidoscopic examination. With evidence of recurrence in the perineum, pelvis or at the suture line, the surgeon is faced with the possible need to do a combined resection with permanent colostomy, or perhaps palliative fulguration. Usually no decision can be made until the abdomen is explored and the extent of the recurrence determined. Local extension to the bony pelvis, bladder or female organs may be contraindications to removal of the growth. On the other hand, distant metastasis, to the liver or lungs, may not gainsay resection provided there is a clear-cut indication for it. If combined resection is not done, diversion colostomy should be reserved for patients with impending obstruction, for in our experience, many patients in such circumstances die before obstruction can develop, and without the additional burden of colostomy. A question for consideration when operation for recurrent carcinoma is being contemplated is whether the comfort of the patient might not be served as well by adequate use of narcotic drugs.

It is not within the scope of this paper to discuss the use of chemotherapy and supervoltage radiation in the management of recurrent rectal carcinoma. In the increasing medical literature on the subject there are encouraging reports of palliation by these agents. Many of the patients we have operated on have received combined therapy with evident benefits.

We believe that too often patients with recurrent and incurable carcinoma are abandoned to physical, emotional and economic suffering, and that they deserve treatment, not in spite of but because of the hopelessness.

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CASE REPORTS

Malignant Melanoma in Pregnancy

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MALIGNANT MELANOMA is a cancerous state that most obstetricians rarely see. Only 46 cases of this disease coincident with pregnancy have been described in the literature. This condition was first reported by Hirst³ in 1905; then by Dawson² who, in a classical monograph on melanomas, discussed a case of malignant melanoma occurring in a woman 33 years of age who died in the last trimester of pregnancy. Because of the manifold problems involved when this pathologic entity is associated with gestation a further additional case report and an analysis of the literature is offered.

Incidence and Age Group

In a recent study by Vogler and co-workers⁶ it was noted that in 2.7 per cent of all patients with cancer the lesion was melanoma. No statistics are available on the incidence of this condition in the pregnant state. In a five-year period it was observed at St. Mary's Hospital, Long Beach, in the ratio of 1:10,342 obstetrical deliveries. Pack and Scharnagel,⁵ who dealt with 32 cases of malignant melanoma incidental to pregnancy, reported that 43.7 per cent of the patients were in their twenties and 53.3 per cent were in their thirties.

Pathology

There are two primary groups of malignant melanomas, those that occur in the prepuberty period and those occurring after the signs of sexual maturation have started to appear. The prepuberty melanoma is indistinguishable either on clinical or microscopic examination from the melanomas of the sexually mature individual. It is noteworthy that the prepuberty melanoma rarely metastasizes to lymph nodes or viscera. In a series of some 1,050 patients having malignant melanoma, Pack and Scharnagel did not find a single instance of such metastasis, nor were they able personally to confirm any reported instance of spread to those sites. The prevailing view is that the prepuberty melanoma, while under the influence of some hormonal change associated with sexual maturation, is so activated as

to be converted from a so-called benign to a malignant tumor.

Byrd and McGanity¹ observed that between ensuing pregnancies there are latent periods with quiescence or recession of the tumor. Malignant melanoma is apparently a hormone-sensitive tumor. Because of the great increase in hormone production, it is evident that pregnancy is a stimulating factor in the growth and development of malignant melanoma. Pack and Scharnagel reported a series of 39 patients in which there was some relation between the occurrence of a melanoblastic neoplasm and pregnancy. So, although the evidence is mostly clinical, there seems to be little doubt that pigment deposition and exacerbations of tumors arising from melanoblasts is excited by sexual maturation and by the pregnant state.

Placental Transmission

In rare cases malignant melanoma produces secondary deposits in the placenta or fetus.⁴ Melanoma is characterized by widespread and non-selective localization of metastatic lesions. There is little hazard to the infant from its own prepubertal melanoma, but apparently no resistance to the growth and dissemination of a homologous graft of melanoma cells from the mother transmitted through the placenta. The metastatic melanoma in the placenta invades the chorionic villi and permeates the intravillous capillaries, blood-borne metastasis occurring first in the liver via the umbilical vein, and later becoming generalized throughout.

REPORT OF A CASE

The patient, a 33-year-old married Caucasian woman with one child was approximately 10 to 12 weeks pregnant when she consulted a physician January 16, 1953. Physical findings and results of laboratory studies were in accordance with this stage of gestation. A raised dark pigmented lesion, 3 x 2 cm., was observed in the left submandibular area. The patient said that it had first appeared two years previously, one year after parturition. On March 20, 1953, when the patient was seen again, the pigmented lesion was carefully examined and was found to be unchanged. When the patient was next examined, in the twentieth week of pregnancy the lesion had increased to 3.5 x 2 cm. and was pal-

From St. Mary's Hospital, Long Beach.
Submitted February 27, 1959.

pably firmer. A surgical consultation was obtained, and a wide excision of the submandibular area was recommended. At this time there were no palpable cervical or axillary lymph nodes and no abnormalities were noted in x-ray films of the chest.

On April 26, 1953 a wide elliptical excision included removal of the tumor area, the regional lymph nodes (including the submandibular area) about the neck, and an intensive dissection of the underlying fat and fascia down to and exposing the muscles over this area. The pathologist's diagnosis was localized malignant melanoma. The patient was dismissed from the hospital within a week. At an office visit on May 10, 1953 the fetal heart was well heard in the right lower quadrant of the abdomen and pulsations were 128 a minute. The fundus was 28 cm. above the symphysis and the fetus was in vertex presentation. On July 20, 1953, the patient was delivered of a normal boy, weighing 7 pounds and 10 ounces, without undue difficulty from the right occipito anterior position by means of low outlet forceps and mid-line episiotomy. There were no postpartum complications. The patient was regularly observed every 12 weeks during the first year, and then in the intervening four years was observed biannually. She was last seen on June 16, 1958. No subsequent melanotic growth changes were noted in the operative area. The patient has had no further pregnancies although no operative sterilization techniques were performed.

Role of Therapeutic Abortion

Since it is well known that hormonal factors attendant in puberty and pregnancy stimulate the growth and dissemination of malignant melanoma, one might think that interruption of pregnancy

would serve as a mitigating influence on this condition. However, it has been shown to have no such effect. Once the dynamic growth propensities of the melanoma are established, nothing short of all-encompassing surgical excision of the lesion has been found to be of even slight effectiveness in checking this momentum. In light of the hormonal associations, it is inadvisable that a woman become pregnant again within three years of an apparent cure of melanoma.

601 South Palm Street, Anaheim (Marcus).

SUMMARY

A case of malignant melanoma coexistent with pregnancy has been presented, the forty-seventh case in the literature. Suitable operative therapy was carried out and the patient had no recurrence during five years of observation.

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An Unusual Case of Carcinoma of the Esophagus

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USUALLY IN CASES of carcinoma of the esophagus the prognosis is poor. Reports of five-year survivals range from 15 to 30 per cent and five-year cures are quite rare. In the case here presented the progress of the tumor defies obvious explanation.

REPORT OF A CASE

A 66-year-old white woman was admitted to St. Joseph's Hospital in November of 1952 with chief complaint of progressive dysphagia for approximately a month. No abnormalities were observed on physical examination. X-ray studies of the

esophagus (Figure 1) were reported as showing "a filling defect extending for 10 cm. above the diaphragm but spanning the cardio-esophageal junction and the upper end of the stomach.

At esophagoscopy an ulcerated, completely occluding lesion was observed at the lower end of the esophagus. A specimen was identified as carcinoma (Figure 2).

Through a left thoracic incision, the lower third of the esophagus was surgically excised and the remaining portion of the esophagus was joined to the proximal end of the stomach just below the aortic arch. The pathologist reported that the tumor extended deep into the muscularis and that there were verruca-like implants arising from the mucosa near the lower end of the resected specimen. There was no evidence of spread to lymph nodes. The patient recovered satisfactorily from the operation and was discharged from the hospital.

On esophagoscopic examination five months later

Submitted April 23, 1959.



Figure 1.—Roentgenologic appearance of tumor in November, 1952.

an indurated area was observed at the suture line and a specimen from the site was reported as epidermoid carcinoma. A roentgenographic examination of the gastrointestinal tract was reported to show a normally functioning stoma but a "filling defect in the upper stomach, probably a local recurrence."

The patient, however, was clinically asymptomatic; and since the original operation had been looked upon as only palliative, she was examined periodically for the next four and a half years without any attempt at further treatment. An x-ray examination carried out in January 1956, some three years after operation, showed the stoma functioning promptly but "indolent recurrence in the lower end of the esophagus and possibly in the upper end of the stomach." Not until September of 1957 did the patient begin to complain of recurrence of dysphagia. Three weeks later she was admitted to the hospital and a roentgenographic examination showed "a recurrent neoplasm in the lower esophagus, with progression since the previous study, and involvement of the fundus. In addition, the possibility of retroperitoneal extension and pre-aortic node involvement is suggested by the indentation of the second portion of the duodenum." (See Figure 3.) Since the patient was having difficulty in swallowing even liquids, surgical exploration was

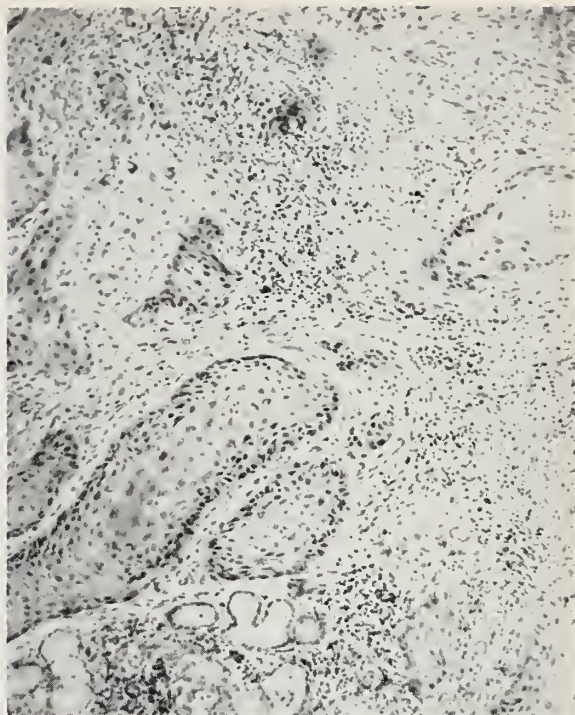


Figure 2.—Microscopic (high power) appearance of carcinoma in 1952 (400X).



Figure 3.—Roentgenologic picture of tumor in November, 1957.

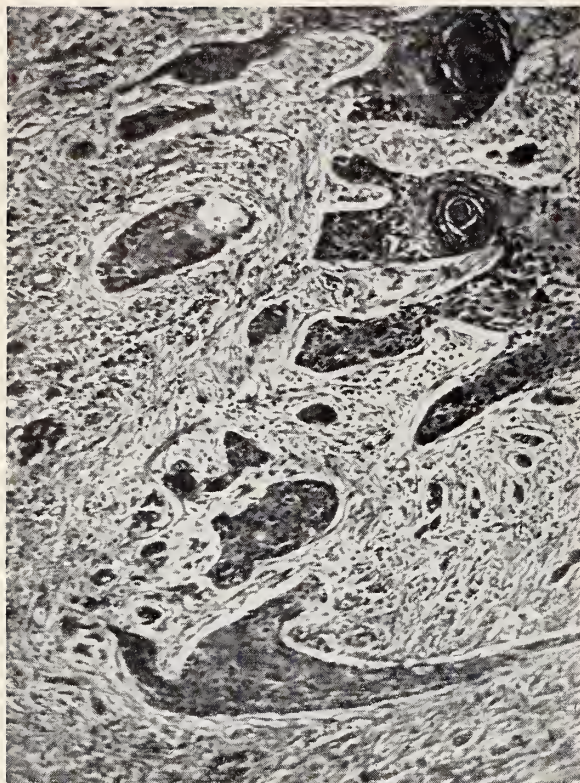


Figure 4.—Microscopic (high power) appearance of lesion in 1957 (400X).

carried out with the intention of performing jejunostomy for feeding purposes. However, when the abdomen was opened and no evidence of recurrent tumor was seen, the right thorax was explored and

a tumor mass apparently still confined to the esophagus was seen. When no malignant disease was noted on multiple biopsy of abdominal lymph nodes by frozen sections, resection of the remaining portion of the thoracic esophagus and the old anastomosis was carried out. The pathologist's report on the new specimen indicated the presence of a fungating, ulcerating tumor identified as squamous cell carcinoma within the lumen of the esophagus. There was no evidence of extension of the tumor beyond the specimen. Small areas of invasion of muscle were evident. The patient recovered promptly from the operation, postoperative course was entirely uneventful, and a year later she was without complaint and without further symptoms.

DISCUSSION

The foregoing case is particularly unusual in that although recurrence of the tumor was present six months following the original palliative resection, it still had not spread five years later. One must wonder what factors in tumor growth or patient resistance could account for this behavior. The sequence of events again emphasizes that the progress of a carcinomatous lesion is unpredictable. Although cases like the one here presented are relatively uncommon, it does serve to illustrate that physicians should be extremely reluctant in any case to conclude that the prognosis is hopeless. The authors believe that in any case of carcinoma of the esophagus in which there is no obvious metastasis and the patient's general health is satisfactory, surgical exploration and local excision should be done if at all possible.

60 Vicente Street, San Francisco 27 (Bazzano).

Hepatohypercholesterolemic Cirrhosis

Report of a Case Implicating Chlorpromazine As the Etiologic Agent

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THE FOLLOWING is a report of a case of jaundice with progression to hepatohypercholesterolemic cirrhosis in a patient who had been taking chlorpromazine.

The patient, a 28-year-old married white woman who had traveled from Detroit to Los Angeles by automobile, began to have malaise, epigastric discomfort, and slight chills and fever about a week after her arrival. She consulted a physician a few days later and was told that she had gastritis. Donnatal® (hyoscyamine sulfate, atropine sulfate, hyoscine hydrobromide and phenobarbital) was prescribed, one tablet four times a day. Five days

Submitted March 30, 1959.

later she returned to the physician with complaint of generalized pruritus, grey stools, dark urine and continued malaise. The diagnosis of infectious hepatitis was made and bed rest and dietary regime at home were prescribed.

After some five weeks the patient was admitted to hospital because of increasing jaundice and enlargement of the liver. Further interrogation at that time elicited that just before she left Detroit a psychiatrist whom she had been seeing at weekly intervals because of emotional and marital problems had prescribed chlorpromazine, two 25 mg. tablets daily to be taken for motion sickness while enroute to California. The patient said that she had taken 16 or 18 tablets during the trip. She said she had not received any medicines, injections or blood tests in the six months before leaving Detroit.

Upon physical examination the patient was observed to be well developed, well nourished and deeply jaundiced. There were numerous excoriations of the skin. The blood pressure was 122/74 mm. of mercury, the pulse rate 82 and respirations 16 a minute. The weight was 103 pounds. The liver

was tender and palpable two fingerbreadths below the right costal margin in the midclavicular line. The edge was smooth.

Results of hematologic tests were as follows: Serum bilirubin (direct) 10.5 mg. per 100 cc., (total) 24.4 mg. per 100 cc.; serum albumin, 5.2 gm. and globulin, 3 gm. per 100 cc.; prothrombin time, 100 per cent; cephalin flocculation, negative in 24 and 48 hours; thymol turbidity, 2.7 units; alkaline phosphatase, 11 King-Armstrong units.

After 43 days of increasing jaundice, laparotomy was done. The liver was moderately enlarged, grey-green, smooth surfaced; and the extrahepatic biliary tree, including the gallbladder, was collapsed. There were no enlarged lymph nodes in the hepatoduodenal and hepatogastric ligaments. No other pathologic changes were noted elsewhere in the abdomen. The pathologist's report on a specimen of liver excised for biopsy was as follows:

"The most conspicuous feature histologically is dilatation and distention of many biliary canaliculi by masses of granular brown pigment. The reticuloendothelial cells also contain comparatively large amounts of granular brown pigment. The microscopic diagnosis is diffuse dilatation and distention of biliary canaliculi by inspissated bile pigment with associated mild parenchymatous degeneration. The changes observed in this tissue were similar to those which have been previously described in persons in whom jaundice developed following the administration of a chlorpromazine drug."

The patient, still jaundiced, was discharged from the hospital 12 days after the operation. At that time the serum bilirubin, direct, was 15.1 mg. per 100 cc., the total serum bilirubin was 32.2 mg. per 100 cc., and the alkaline phosphatase was 21.5 King-Armstrong units. About a month after discharge from the hospital the patient returned to Michigan. Jaundice had not abated. In correspondence with the Department of Internal Medicine of the University of Michigan where the patient was observed, it was learned that five months after she left California she had a blood cholesterol content of 2,200 mg. per 100 cc. Cutaneous xanthomatous lesions had developed. The alkaline phosphatase at that time was 59.4 King-Armstrong units. Total serum bilirubin was 23.4 mg. per 100 cc.

DISCUSSION

We believe that the case herein reported was one of chlorpromazine jaundice which progressed to hepatohypercholesterolemic cirrhosis. Liver sensitization to chlorpromazine occurs in about 20 per cent of patients receiving this drug.⁵ Spontaneous desensitization usually follows and jaundice occurs only in 1 to 5 per cent.^{2,5} The jaundice usually subsides rapidly on discontinuance of the medication but it may last for long periods and may be responsible for altered lipid metabolism and subsequent pericholangiolytic biliary cirrhosis (primary biliary cirrhosis or hepatohypercholesterolemic cir-

rhosis).^{2,5} The hepatic changes attributed to the drug have also been reported to contribute to fatal outcome.¹ Kelsey and co-workers³ urged limitation in the use of chlorpromazine because of these complications.

The most likely cause of the hepatitis in these circumstances is a drug sensitivity reaction. This conjecture is supported by the fact that there is a latent period, that peripheral eosinophilia occurs in about 50 per cent of the cases, and that maculopapular rash, urticaria or asthma and periportal eosinophilia also are associated conditions. Menguy and co-workers⁴ suggested on the basis of experiments in dogs that sphincter spasm may be the major factor in the obstruction to the outflow of bile. However, this phenomenon was observed only in cholecystectomized dogs that were given doses of 10 mg. per kilogram of chlorpromazine intravenously. Shay and Siplet⁵ noted four kinds of liver response to the drug: (1) No elevation of alkaline phosphatase (or normal response); (2) Liver sensitivity, indicated by a rise of serum alkaline phosphatase to abnormal levels, with return to normal levels on discontinuance of the drug and the alkaline phosphatase remaining normal on resumption of administration; (3) Liver sensitivity lost on continuation of the drug; (4) Liver sensitivity that progressed to jaundice in spite of discontinuing the drug. These investigators suggested that a screening test for detecting liver sensitivity to the drug (also other drugs such as arsenic, methyl-testosterone, dinitrophenol, thiuracil, and toluylene diamine) should be carried out in the following manner: The serum bilirubin and alkaline phosphatase values should be taken at the start of therapy and the serum alkaline phosphatase determinations should be repeated two times weekly for the first three weeks of therapy. If the values went above normal, the drug should be discontinued until the values of serum alkaline phosphatase returned to normal, and the drug might then be started again. The serum alkaline phosphatase then should be determined twice weekly for the next ten days and the drug could be continued if the values did not again rise above normal, which they believe would indicate that desensitization of the liver had occurred.

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EDITORIAL

Seminars on Medico-Economic Problems

MUCH HAS BEEN WRITTEN and spoken about the fantastic advances in medical science in the past decade or so. Diseases that have been literally abolished are cited as evidence of how far medicine has come in a short time. Surgical procedures of pre-war days that are virtually unknown today are listed in support of the advances of the profession.

Coincidentally, medicine has been faced with an ever-growing complexity of programs and policies, laws and regulations, which interject their presence between the physician and the patient.

Just 20 years ago California Physicians' Service was set up as the first medically sponsored statewide program of voluntary health insurance. Today C.P.S. remains as the vanguard in an amazing development and growth of all forms of voluntary health care insurance. From so small a beginning has grown the entire commercial insurance industry in health and accident insurance, the group prepayment plans and the many other forms taken by various ventures into the field of paying while well, receiving when sick, for health care coverage.

Along with the growth of these voluntary ventures has come the entrance of government into the field of publicly sponsored health care programs. Led off by the Veterans' Administration with its Home Town Care Program for service-connected disabilities, other agencies have come into the medical care picture for the coverage of other groups of citizens.

Today we find programs for rehabilitation, vocational rehabilitation, crippled children, the aged needy, the blind and others, all sponsored by federal or state governments or both. The mentally ill, the migrant farm worker and the indigent receive care paid for by governmental agencies. On top of these, proposals are now before our legislative bodies to

define new groups who will receive the benefits from government-sponsored and financed medical care programs. Included in such groups are Social Security beneficiaries above the age of 65 years and the multitudinous employees of federal and state governments.

The physician today must not only keep up with the rapid advances in medical science; he must also stay abreast of the growing list of beneficiaries of government programs, if only to keep his own records straight and assure his receiving whatever fee is allowed for his services.

Obviously, this is no easy job. The busy doctor, who cannot find the time he would like to give to study of his own professional journals, certainly cannot be expected to study and digest the numerous rules, regulations and legal provisions surrounding each of the many governmental programs now written into the statutes or under discussion for possible future enactment.

It is at this point that medical organizations can perform a service in the field of communications. Such organizations can assign staff personnel to the study and digesting of the various programs and to putting them into a form in which they may be easily understood and followed by individual physicians.

Recent experience, following the introduction of some of the more recent government medical care plans, indicates that there has been a lag between the effective date of a new program and its assimilation by the profession. This was vividly demonstrated just two years ago in the introduction of joint federal-state programs for medical services to the needy aged, the needy blind and needy children. While much of the initial groping on these programs has disappeared, it seems apparent that other plans will emerge which will create a similar situation of lack of information followed by distrust.

As a means of bringing communications up to date on these and similar developments, the California

Medical Association this year is planning a two-day session in Los Angeles, October 10 and 11. To this meeting will be invited the top officers and committee chairmen of the county societies.

There, those physicians and staff members who have devoted their time to the study of specific programs or plans will furnish digests of the numerous programs for the representatives of the county societies. There, those in attendance will be given the chance to bring forth their problems and their questions.

Topics to be covered will include government-financed medical care, privately financed medical care, fee schedules, public relations, problems of the aging, problems of the migratory farm worker. Taken with the many subdivisions under each major topic, the program will present a concise review, study and forecast of the problems and obligations of medicine in meeting the health care needs of

many groups of citizens and, in the case of farm workers, a large number of aliens as well.

The California Medical Association has held annual conferences of county society officers in the past and has attempted in those conferences to bring the county representatives up to date on the variety of problems facing medicine at the moment. This year the list of such problems is so long and so varied that a two-day session is required and the presence of additional county society representatives is indicated.

It is to be hoped that the communications between the C.M.A. on the one hand and the county societies and their members on the other may be greatly improved through this conference. The spoken word, especially where there is opportunity to question the speaker, should go a long way to bring about a better understanding of the socio-economic problems of the day.

Dealing with Third Parties

HOWEVER MUCH we may object in principle to the intrusion of a third party between physician and patient, organized medicine cannot blind itself to the fact that dealing with such parties is sometimes necessary if a patient is to be treated. Where that condition exists, our primary concern must always be the best possible medical care for every patient in whatever circumstances we find ourselves.

Where the circumstances are not ideal, we must do our best within their limits—and work to improve them.

Where existing conditions that are hospitable to the best medical care are threatened, we must resist.

In this day of growing tendencies toward pecuniary arrangement for medical care through third party organizations—insurance plans, labor organizations, government—it behooves us to inform ourselves on how to deal with what we cannot change, how to improve what can be improved, how to mount reasoning resistance to developments that appear to threaten ideal conditions for the care of patients.

One sensible way to go about informing ourselves in these respects is through the attendance of officials of medical societies at meetings such as the Invitational Regional Conference of the Committee on Insurance and Prepayment Plans of the American Medical Association which was held last month in Portland. Many officers and members of interested committees of the California Medical Association attended.

That reason, not prejudice, was the tone of the meeting is indicated by the titles of formal presentations on the program; five of seven were in the form of questions:

¶ What is the potential impact of the demands of labor unions (spokesmen) upon health insurance programs and medical society sponsored or approved plans?

¶ What are medical societies doing in reference to these demands?

¶ How can voluntary health insurance best compete with closed panel plans?

¶ What is being done for persons over 65 with "modest resources and low family income?" (Including consideration of further steps which can or should be taken to implement the recommendations of the House of Delegates.)

¶ Ways and means of impressing upon all physicians a recognition of the importance of events that are occurring as they relate to aging, health insurance and indigent care.

¶ A "National Congress on Prepaid Health Insurance" as authorized by the House of Delegates.

¶ What steps, if any, can or should be taken by the American Medical Association regarding the topics discussed?

These American Medical Association conferences are attended by various state association officials who are dealing with the problems concerned, and in addition the A.M.A. makes transcripts available to interested physicians who do not attend.

Seeking and disseminating information of the kind indicated in the foregoing titles is a reasonable approach to the problem of how to do the best we can do in today's circumstances.

Letters to the Editor...

To physicians troubled by the stridor of accusations made against our profession nowadays, the following letter must come as a sweet reminder that the one thought we held above all others when we were deciding to become physicians is still our animus. The names are changed, to protect the modest.

American Medical Association
535 N. Dearborn, Chicago 10, Ill.

Gentlemen:

I have just read an article in *Readers Digest* about Malpractice Suits Against Doctors. It is hard to believe because we've had such wonderful doctors.

I feel that writing to you and expressing our praise of two special doctors, who are undoubtedly associated with you, was the only way I could express our feelings. Hope it is in order, and that you enjoy hearing about outstanding doctors.

My family—me, my husband and our three sons, aged 11, 9 and 8—were in a serious head-on collision on August 17, 1958, and are still recovering from the multiple injuries.

We had just moved to Los Angeles two weeks before the accident and didn't know anyone. The accident occurred 60 miles outside of Los Angeles. We were all unconscious and moved by ambulance to an emergency hospital. . . . Several doctors came to our aid, and [one of them] performed delicate surgery on Norm, which saved his life.

A sister, when notified of the accident, took charge of our affairs. She authorized calling a neurosurgeon from Los Angeles since there were none locally and we all had skull fractures. [The one who was] summoned, came. He performed brain surgery on Ronald and Dennis and thereby saved the sight in Dennis' right eye. The optic nerve in the left eye was destroyed, but surgery saved his right eye and also saved his life. Ronald had brain surgery and was unconscious 12 weeks and now has a palsy condition because of injury to his motor nerves. [The neurosurgeon] suggested that the boys be moved to [a hospital nearer Los Angeles] where he was on the staff, so he could watch the boys constantly. . . . My sister had us all moved there. Dr. ——— called in various other doctors to care for us, and he picked the finest men available. Our main injuries required an orthopedic man and a neurosurgeon.

Dr. ——— is a fine, dedicated man. He pulled me and the boys through with his constant vigilance.

He called in [another doctor] for the orthopedic work. He diligently reconstructed our broken bones and now we all face a normal life because of these two wonderful men. They were more than doctors

—they were friends as well. They have never been too busy to talk with us; explain our injuries; and diminish our fears.

We are grateful to all the many doctors and nurses who took care of us, because we were complete strangers in a strange area. There was never a question of money brought up. The doctors, particularly Dr. ——— and Dr. ———, gave of themselves completely—their time, effort, skill and heart. . . . They visited us at least once and sometimes twice a day at the hospital, even on Sundays and holidays. When we were released to go home, they were always available to see us or answer questions.

We credit the lives of all of us to these two men primarily—to their unselfish use of time and to their skill and devotion to their profession.

I wish I knew of some way to tell the world about these wonderful men, because we hear enough about the inadequacies of doctors—so why not a word about these two, which is, I am certain, repeated over and over every day throughout the world. All the doctors we have known have been dedicated men who have put the caring of patients above themselves and their lives.

Labels on Medicine Bottles

THIS IS A PLEA to include the names of drugs on the labels stuck to the dispensed medicine bottles. Most prescriptions should bear the word "Label" below "Sig." The advantages of immediate identification of the contents are so obvious that examples of cases are perhaps unnecessary where this practice would have been desirable, imperative and even lifesaving. The empty bottle, or the one containing a nondescript tablet, can present an irritating, time-consuming, even dangerous puzzle: to a physician taking over the case, to a pharmacist, not to speak of the prescriber himself who may be caught without having access to his notes or, most abjectly, with notes altogether silent on the matter. The epileptics, addicts, suicides, any patient on vital substitution therapy are only the most blatant instances.

I am well aware of the objections, but also of the over-riding acclaim this proposal has found and will find among colleagues. Secrecy, professional mystery, placebo medication, protection against snooping have their place in rare cases which, of course, should be exempt from the labelling practice. But the common mid-twentieth century patient usually demands and enjoys the privilege of knowing what he is taking, at least by name. The reason why this name does not appear on his bottle is an outworn tradition, that "we have never done it be-

fore," or "we were not told to do it in medical school." We just haven't thought of it often enough. But the advantages are worth the effort of writing an extra five-letter word, or the print on the prescription blank, and the scratch where it does not apply.

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Single Injury and Cancer

IN AN ARTICLE entitled, "Can a Single Injury Cause Cancer?," by Dr. Arden R. Hedge in the January 1959 issue of *CALIFORNIA MEDICINE*, it is my belief that the problem is discussed superficially and that numerous recent concepts relating to the pathogenesis of cancer are ignored. I note that except for a reference to a review article in *Cancer Research* concerned with the basic aspects of cell division the most recent reference in the bibliography is that to an article published by Dr. F. W. Stewart in 1944. During the intervening years, experimental and clinical observations suggest that the concept of trauma in cancer certainly is in need of review. The conclusions of Stewart¹ that "Attempts to rely on single trauma to explain cancer depend on the exercise of primitive forms of reasoning," and Downing² "—I have never been thoroughly satisfied that a single trauma ever caused cancer—" are in need of re-examination in light of recent investigations on the role of skin sensitization and cocarcinogenesis in the etiology of skin cancer. Special emphasis should be directed toward the part played by wound healing in its action as a promoting agent or cocarcinogen.

The concept of "sensitization" or "preparation" of skin by means of suboptimal exposure to carcinogenic hydrocarbons has been experimentally established by Berenblum,³ Berenblum and Shubik,⁴ Rous and Kidd,⁵ and Friedewald and Rous.⁶ The suboptimal exposure serves as an initiating phase by converting some of the cells in the skin of experimental animals to a preneoplastic condition. Following this stage, which Berenblum refers to as precarcinogenesis and which Rous refers to as the stage of initiation, nonspecific agents such as wound healing, freezing with carbon dioxide snow, croton oil, and mechanical irritation are capable of converting the skin to true neoplasm. Friedewald and Rous, in their experiments on rabbits, showed that wound healing may act as a promoting agent. Shubik in attempting to confirm this observation modified their technique and succeeded in producing skin papillomas at the site of the induced trauma. No malignant changes were observed at the time the animals were sacrificed. He did conclude, however, that wound healing was undoubtedly effective as a promoting agent.

The carcinogenicity of certain petroleum oils that are obtained from the fluid catalytic cracking proc-

ess has been demonstrated by Holt and his co-workers⁷ in experiments on mice, rabbits, and monkeys. They further concluded that, "Employees exposed to contact with these oils are believed to be exposed to an occupational cancer hazard."

A case reporting the "Possible role of trauma as a cocarcinogen" in an oil worker by Kotin and Kahler⁸ was recently published. Shimkin and his associates⁹ reported the appearance of a carcinoma following exposure to a refrigeration ammonia-oil mixture. They concluded, "In our opinion a causal connection can be reasonably postulated between the trauma and the exteriorization of a latent neoplasm as an example of a cocarcinogenic effect." Smith¹⁰ in a discussion of pulmonary cancer stressed that not only carcinogenic materials have to be considered but also cocarcinogenic agents which may be related or unrelated to the evoking agent.

An ever-expanding list of actual or potential carcinogenic agents is being introduced into the occupational environment as the result of newer industrial processes and the increased use of petroleum and its by-products. While exposure is admittedly kept at a minimum by industrial health control measures, suboptimal exposures to carcinogenic agents do occur with attendant danger of establishing the stage of initiation. In this light, the routine dismissal of trauma as a noncontributing factor to carcinogenesis should be replaced by the taking of a detailed occupational and environmental history of the patient to see if the process of cocarcinogenesis may have been a factor.

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California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 450th Meeting of the Council, San Francisco, Fairmont Hotel, June 27, 1959.

The meeting was called to order by Chairman Lum in the San Francisco Room of the Fairmont Hotel, San Francisco, on Saturday, June 27, 1959, at 9:30 a.m.

Roll Call:

Present were President Reynolds, President-Elect Foster, Speaker Doyle, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Gifford, Davis, Sherman, Campbell, Lum, Bostick and Teall. Absent for cause, Vice-Speaker Heron and Councilors Shaw and Harrington.

A quorum present and acting.

Present by invitation were Messrs. Clancy, Whelan, Marvin, Edwards and Collins of C.M.A staff; Ben Read and Eugene Salisbury of the Public Health League of California; Messrs. Hassard and Huber, legal counsel; county executives Scheuber of Alameda-Contra Costa, Nute of San Diego, Geisert of Kern, Dochterman of Sacramento, Bannister of Orange, Pettis and Field of Los Angeles, Wood of San Mateo, Donovan of Santa Clara, Brayer of Riverside, and Thompson of San Joaquin; Doctor Marshall Porter, State Department of Mental Hygiene; Doctor John Keye, Medical Director of the State Department of Social Welfare; William Rogers of the California Academy of General Practice; Doctor Larson, Mr. Paolini and Mr. Lyon of California Physicians' Service; and Doctors Dan O. Kilroy, Francis J. Cox and H. Dean Hoskins.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 449th meeting of the Council held May 9, 1959, were approved.

2. Membership:

(a) A report of membership as of June 25, 1959, was presented and ordered filed.

(b) On motion duly made and seconded, 2060 delinquent members whose dues had been received since May 9, 1959, were reinstated.

(c) On motion duly made and seconded in each instance, six applicants were voted Retired Membership. These were: Robert M. Furlong, Marin County; George B. Bormann, Waldo R. Oechsli, Los Angeles County; R. Stanton Sherman, San Francisco County; Earl C. Kading, San Mateo County; Louis W. Achenbach, Ventura County.

(d) On motion duly made and seconded in each instance, 29 applicants were voted Associate Membership. These were: Robert D. Bright, Roland F. Marks, M. Hunter Smith, Alameda-Contra Costa County; Claude Carter, Donald Casad, Mervyn S. Schwartz, Kean Westphal, Fresno County; Onn Tsai Chan, Alice L. Garrett, Antoinette A. Gomes, William Aubrey Gore, Charles V. Johnson, Barbara Evans Kovats, Margaret M. McCarron, Turner Wm. Payne, Milton G. Crane, Rollin K. McCombs, Robert M. Nakamura, Los Angeles County; Harold V. Dwyer, Margaret Godfrey, Napa County; M. B. Perkins, Orange County; Merritt D. Moon, Sacramento County; Ethel A. Chapman, San Bernardino County; Harold F. Behneman, San Diego County; Everett H. Dickenson, Robert Eisenberg, Emily Koeniger, San Francisco County; Kenneth E. Cole, San Luis Obispo County; Robert H. Noce, Stanislaus County.

T. ERIC REYNOLDS, M.D.	President
PAUL D. FOSTER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Chairman of the Council
SAMUEL R. SHERMAN, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D.	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary

General Office, 450 Sutter Street, San Francisco 8

ED CLANCY Director of Public Relations
Southern California Office:

2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

(e) On motion duly made and seconded, reductions in dues were voted for 27 members because of illness or postgraduate study.

3. *Report of President:*

President Reynolds read two letters of appreciation which had been received, one from W. Byron Rumford and one from Doctor E. Vincent Askey.

Doctor Reynolds briefly reported on some of the actions taken at the A.M.A. annual meeting.

He stated that the A.M.A. Committee on Insurance and Prepayment Insurance Plans has scheduled a conference in Portland, Oregon to be held August 1 and 2 to discuss various economic problems. He will send a letter to the presidents of the various county societies and to the presidents of the districts in Los Angeles County urging them to send representatives to this conference. He also urged that C.M.A. be well represented at this meeting. (A letter has gone out over Doctor Reynolds' signature to the various county societies.)

4. *Report of President-Elect:*

President-Elect Foster reported additional actions taken at the A.M.A. annual meeting. He particularly mentioned that the A.M.A. is studying a plan by which physicians can provide for private retirement benefits.

Doctor Sherman reported on the effectiveness of the California delegation to the A.M.A. House of Delegates and particularly the work of Doctors Foster, McDonald, Bostick and Cass, and Messrs. Hassard, Hunton and Clancy. Mr. Clancy's report of the A.M.A. annual meeting was commended. On motion duly made and seconded it was voted that a letter of commendation be forwarded to Doctor Cass and to Messrs. Hassard, Hunton and Clancy.

5. *Committee for Emergency Action:*

(a) *Forand Bill Hearings:* Mr. Hassard reported that the House Ways and Means Committee would hold open hearings on H. R. 4700 during the week of July 13-17. The A.M.A. suggested California should request the Committee to permit a representative of the medical association to appear before it. The Committee for Emergency Action and the Legislative Committee held a telephonic meeting on the afternoon of June 26 and designated Doctor Reynolds as the person to represent C.M.A. and directed that a letter be sent to the Ways and Means Committee requesting an opportunity for Doctor Reynolds to be heard. A letter making this request was forwarded to the Committee. The Council approved the action taken by the Committee for Emergency Action.

The Council directed that a letter be prepared to be sent to each member of the Association outlining

the provisions of H. R. 4700 and urging individual action.

(b) *Meeting with State Finance Department:* Doctor Kilroy reported that the Committee on Legislation and the Committee for Emergency Action met in Sacramento with representatives of the California Finance Department. Doctor Reynolds summarized what went on at this meeting. If the state medical fee schedules are to be reasonably revised, representatives of the medical association must present facts upon which the revisions can be made. It was moved, seconded and voted that C.M.A. cooperate with the appropriate committee of the State of California and present to it the essential data regarding current physician charges in various regions of California and that we obtain the necessary data and permission for use from the various county societies to effect these objectives.

6. *Report of the Finance Committee:*

Doctor Sherman presented the report of the Finance Committee. It was recommended that John F. Forbes & Co., in connection with the annual audit, make suggestions regarding all financial procedures of the Association including the preparation of the annual budget and correlation of expenditures and also review the books and records of the Trustees of the C.M.A., Physicians' Benevolence Fund, Audio-Digest Foundation and Pacific Magnetic Tape Equipment Company.

It was moved, seconded and voted that whenever a proposal is made to the Council which will require the appropriation of funds not already included in the budget, the proposal shall be referred to the Finance Committee for study and that the Committee make a written report to a subsequent Council meeting.

It was moved, seconded and voted that the membership of the Finance Committee be increased from three to five with broader geographic representation.

The proposed MD-65 stop-loss agreement between C.M.A. and C.P.S. was moved, seconded and voted.

7. *Invitation to Doctors Orr and Askey to address Annual Session:*

The Council directed that Doctor E. Vincent Askey be invited to address the Annual Session of the C.M.A. at both its meeting in 1960 and its meeting in 1961. The Council also directed that the president invite Doctor Louis M. Orr, the president of the A.M.A., to address the Annual Session of the C.M.A. at its meeting in 1960.

8. *Commission on Public Policy:*

Doctor Kilroy and Messrs. Read, Salisbury and Hassard made a report to the Council concerning the various pieces of legislation that were passed,

those that were defeated and those measures which have been referred to an interim committee for further study.

A report of the Public Relations Committee was made by Mr. Clancy. The Committee recommended that in the event a fall meeting of the presidents and secretaries is held, a meeting of the chairmen of the various county public relations committees be convened at the same time.

9. *Commission on Medical Services:*

(a) *Two-Day Fall Meeting:* Doctor Francis J. Cox, chairman of the Commission on Medical Services, reported that the Commission recommended against the proposal that an interim session of the House of Delegates be held. Instead, the Commission proposed that the annual meeting of the county society officers be held in the fall and be expanded to a two-day meeting to consider problems of the aged and other urgent matters facing the profession and that invitations include appropriate county society committee chairmen; that a small special committee be appointed to direct the formulation of a program for the meeting. The Council approved the recommendations and directed the chairman of the Council to appoint the special committee.

(b) *Statewide Joint Council to Improve Care of the Aged:* The Commission also reported that the A.M.A. has proposed that state societies sponsor statewide joint councils to improve the care of the aged, composed of representatives of the dental, hospital and nursing home owners' associations. It was moved, seconded and voted that the Commission approach representatives of these associations in California, looking toward the feasibility and advisability of forming a California Joint Council to Improve the Care of the Aged and make a report back to the Council regarding this matter at its next meeting.

(c) *V. A. Home Town Care Program:* The Commission also recommended and the Council authorized the president to forward a letter to each member of the Association advising them of the recent changes in the Veterans Administration Home Town Care Program.

(d) *Revision of Workmen's Compensation Official Minimum Medical Fee Schedule:* The Commission reported the revisions in the Workmen's Compensation Official Minimum Medical Fee Schedule which had been ordered by the Industrial Accident Commission. The Council directed that this revision be widely disseminated to the membership.

(e) *Survey by Committee on Indigent and Aged:* Upon inquiry, Doctor Cox advised that the Committee on Indigent and Aged had under study a survey form which will be designed to obtain addi-

tional information pertinent to the medical care of the aged.

(f) *Relative Value Study*:* The Council inquired of Doctor Cox when the data from the recent Relative Value Study would be available for the various counties. The Committee on Fees, Doctor H. Dean Hoskins, chairman, had been in session all day studying this problem. He reported that the Committee did not feel that it could recommend that any figures from the recent survey should be submitted to the counties until all tabulations had been completed. After discussion, it was moved, seconded and voted to table further consideration of this matter. (See Item 19.)

10. *Commission on Medical Education:*

(a) *Proposals Regarding the Annual Session:* The Commission on Medical Education made several recommendations to the Council regarding the holding of the annual session. After discussion, it was moved, seconded and voted that further consideration of this matter be tabled.

(b) *Invitations to Speakers for Annual Session:* The Commission also proposed that the following speakers be invited to address the 1960 Annual Session: Arnold Rich, M.D., Johns Hopkins; William Barry Wood, Jr., M.D., Johns Hopkins; Albert Segaloff, M.D., Tulane; and Oliver Cope, M.D., Harvard. This recommendation was approved by the Council.

11. *Staff Report:*

Discussion of the staff report relating to the guides for members of the House of Delegates was deferred until the next meeting.

12. *Commission on Public Agencies:*

A written report of this Commission was presented by Doctor Bostick. It was approved by the Council.

13. *State Department of Mental Hygiene:*

Doctor Marshall Porter of the State Department of Mental Hygiene expressed the appreciation of his Department for the cooperation received from C.M.A. representatives during the last session of the Legislature.

14. *Department of Social Welfare:*

Doctor John Keye briefly advised that the Department of Social Welfare must draft a program to administer the benefits that the Legislature has provided for those welfare recipients having disabilities.

15. *California Physicians' Service:*

Mr. Paolini reported briefly to the Council about the operations of California Physicians' Service.

*For further Council action on this subject, see minutes of August 8, 1959 meeting to be published next month.

16. *Social Security Poll:*

The Council directed that a meeting of the Speaker's Committee to outline an educational program regarding a ballot on the matter of physicians joining the social security system be held in the very near future.

17. *Special Committee to Define Duties of Officers:*

The Council also directed that the special committee which was formed to propose appropriate by-law changes to better delineate the duties of the officers of the Association, make a report to the next meeting of the Council.

18. *Coordination of Committees:*

Doctor Foster pointed out that the various committees dealing with government medical care programs should be constantly alert to insure the best coordination possible in this field of activity.

19. *Relative Value Study:*

It was moved, seconded and voted to take from the table the subject matter of the Relative Value Study. After discussion, it was moved, seconded and voted that the current Relative Value Study be referred to the Committee for Emergency Action for intensive study and report to the Council at the August meeting.

20. *Time and Place of Next Meeting:*

The Chairman announced, the Council concurring, that the next meeting would be held August 8 in Los Angeles.

21. *Adjournment:*

There being no further business to come before it, the meeting was adjourned at 5:45 p.m., Saturday, June 27, 1959.

DONALD D. LUM, M.D., *Chairman*

MATTHEW N. HOSMER, M.D., *Secretary*

Two School Health Conferences Set

TWO TWO-DAY CONFERENCES for California physicians and school administrative personnel on school health problems, one to be held in Riverside and the other in Berkeley, are planned for October under the sponsorship of the California Medical Association Committee on School Health.

The Riverside meeting is scheduled for October 2 and 3 at the Mission Inn and the Berkeley meeting October 23 and 24 at the Claremont Hotel.

Programs of formal presentations on assigned subjects by physicians and education department personnel are being formulated; and in addition there will be discussion groups, each with a recorder, that will serve as a sounding board for

OCTOBER 10-11 MEETING FOR CMA AND COUNTY SOCIETY KEY PERSONNEL

Saturday and Sunday, October 10 and 11, have been set as the dates for a two-day meeting at which county society officials and key personnel of active committees will meet with officers, committee leaders and members of the staff of the California Medical Association for reports and exchange of information on various programs of interest to the medical associations.

The meeting, to be held in Los Angeles at the Ambassador Hotel, was proposed by the CMA Commission on Medical Services and approved by the Council. It will take the place of the one-day gathering of county society officers that formerly was held in January each year. The earlier date and the expanded meeting were recommended because of the need to formulate and begin carrying out association programs in various fields, particularly medical care for persons over 65 years of age.

A special committee is working out an agenda and other details of the meeting.

school health problems and ideas as to their solution.

The meetings are open to all physicians, in particular those who are members of school health committees of county medical societies or other local organizations dealing with the subject.

At the end of the first day of both meetings, CMA is to be host at banquets to which all registrants are invited.

CONSTITUTIONAL AMENDMENT OFFERED

A proposed amendment to the Constitution of the California Medical Association was offered at the 1959 session and, in accordance with provisions of the Constitution, was referred to the Reference Committee on Amendments to the Constitution and By-Laws. The proposed amendment must lie on the table for one year and be published twice during that period in CALIFORNIA MEDICINE.

The reference committee suggested that this proposal be studied by the Constitution Study Committee during the year. The proposal will be referred in 1960 to a reference committee for additional study and recommendations to the 1960 House of Delegates.

Constitutional Amendment No. 1.

Author: Arthur Olson.

Representing: Santa Barbara County Medical Society.

Resolved: That Article VIII of the Constitution of the C.M.A. be amended by renumbering the pres-

ent sections in said Article to 2, 3 and 4 and inserting a new Section 1 as follows:

Section 1.—Eligibility for Appointment

Eligibility for appointment or election to any position, to any committee, or to in any way represent the C.M.A., or to formulate policy for C.M.A., shall depend on the member's not holding a salaried

position with or acting in an advisory capacity for, or being retained by a commercial insurance company or health plan which handles health or accident problems during the term of election or appointment. Nor shall such delegates or committee members hold a remunerative political position either appointive or elective. Association with California Physicians' Service is specifically excluded.

In Memoriam

ABBOTT, CHARLES NORMAN. Died in Cucamonga, July 18, 1959, aged 51, of heart disease. Graduate of College of Medical Evangelists, Loma Linda—Los Angeles, 1934. Licensed in California in 1934. Doctor Abbott was a member of the San Bernardino County Medical Society.



DESPAROIS, GUY BERNARD. Died in Los Angeles, May 12, 1959, aged 76. Graduate of Northwestern University Medical School, Chicago, Illinois, 1917. Licensed in California in 1926. Doctor Desparois was a member of the Los Angeles County Medical Association.



GORDON, KENNETH W. Died June 18, 1959, aged 70. Graduate of Baylor University College of Medicine, Houston, Texas, 1930. Licensed in California in 1931. Doctor Gordon was a member of the Los Angeles County Medical Association.



HALL, LEGRANDE LARSON. Died July 27, 1959, aged 53, of heart disease. Graduate of University of Colorado School of Medicine, Denver, 1932. Licensed in California in 1934. Doctor Hall was a member of the Los Angeles County Medical Association.



HYDE, ROBERT D. Died in Santa Monica, July 15, 1959, aged 63, of heart disease. Graduate of Harvard Medical School, Boston, Massachusetts, 1927. Licensed in California in 1930. Doctor Hyde was a member of the Los Angeles County Medical Association.



KAARBOE, OLAV. Died in Oakland, July 4, 1959, aged 72, of cardiac failure due to coronary occlusion. Graduate of College of Physicians and Surgeons of San Francisco, 1917. Licensed in California in 1917. Doctor Kaarboe was a retired

member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



KOEHLER, ALFRED EDWARD. Died in Santa Barbara, July 27, 1959, aged 62. Graduate of Harvard Medical School, Boston, Massachusetts, 1925. Licensed in California in 1931. Doctor Koehler was a member of the Santa Barbara County Medical Society.



LACEY, MARTIN J. Died in Albany, July 22, 1959, aged 79, of generalized arteriosclerosis. Graduate of Northwestern University Medical School, Chicago, Illinois, 1911. Licensed in California in 1929. Doctor Lacey was a retired member of the Alameda-Contra Costa Medical Association and the California Medical Association, and an associate member of the American Medical Association.



ROSENBLUM, DAVID HYMAN. Died in Los Angeles, July 22, 1959, aged 61, of heart disease. Graduate of University of Illinois College of Medicine, Chicago, Illinois, 1925. Licensed in California in 1925. Doctor Rosenblum was a member of the Los Angeles County Medical Association.



WAGNER, CHARLES ANDREW. Died July 14, 1959, aged 51. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1934. Licensed in California in 1946. Doctor Wagner was a member of the Los Angeles County Medical Association.



WOLFSON, ISAAC EDWARD. Died July 20, 1959, aged 54. Graduate of Cincinnati College of Medicine, Ohio, 1931. Licensed in California in 1932. Doctor Wolfson was a member of the Los Angeles County Medical Association.

APPLICATION
FOR HOUSING
ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

Eighty-ninth Annual Session
CALIFORNIA MEDICAL ASSOCIATION
Los Angeles, California
FEBRUARY 21*-24, 1960

HOTEL ROOM RATES†

AMBASSADOR HOTEL	Single	Twin Beds	Suites
3400 Wilshire Boulevard			
Moin Building.....	12.00-22.00	16.00-26.00	32.00-44.00
Gorden Studios.....	18.00-28.00	22.00-32.00	44.00-58.00
CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard.....	9.00-10.00	14.00	20.00
Bungalows.....		16.00	25.00-40.00
THE GAYLORD HOTEL			
3355 Wilshire Boulevard.....		12.50	18.00
HOTEL CHANCELLOR			
3191 West Seventh Street..	9.00	12.00	
SHERATON-WEST (formerly Sheraton-Town House)			
2961 Wilshire Boulevard.....	12.50-18.00	17.50-23.00	34.00

ALL RESERVATIONS MUST BE RECEIVED BEFORE: FEBRUARY 1, 1960

*February 20: House of Delegates will start with evening meeting Saturday, February 20.
†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 89th Annual Session of the California Medical Association, in Los Angeles February 21-24, 1960.

Single Room \$..... Twin-Bedded Room \$.....
Small Suite \$..... Large Suite \$..... Other Type of Room \$.....

First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date):..... Hour:..... A.M. P.M. { Hotel reservations will be held until
Leaving (date):..... Hour:..... A.M. P.M. { 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

.....
.....
.....

Individual Requesting Reservations—Please print or type
Name..... Officer?..... Delegate?..... Alternate?.....
County.....
Address..... City and State.....

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

THE NUMBER OF REPORTS of occupational disease attributed to pesticides and other agricultural chemicals the first six months of this year comes close to doubling the number recorded for the like period in 1958. Reports for the first half of the current year number 488, compared with 274 a year ago.

Crop production in California as elsewhere in the nation is steadily increasing, despite the fact that acreage and manpower devoted to agriculture are dwindling. A major part of these production increases can be attributed to more and better use of pesticides and other agricultural chemicals.

Many of these materials, however, are potentially hazardous and their widespread application creates a problem in ensuring the health and safety of the workers who handle them.

Of particular interest this year has been the large number of reports of parathion (one of the highly toxic organic phosphate chemicals) poisoning. During June more than 70 reports of parathion poisoning were received from one county. There have been about 30 reports of thimet poisoning, a new organic phosphate pesticide of relatively high toxicity which is used to treat cotton seeds.

Work on several new diagnostic tests for poliomyelitis and other virus infections will be continued by the Department with a \$26,952 grant from the National Foundation. The grant will support research under the direction of Dr. Edwin H. Lennette, chief of the Viral and Rickettsial Disease Laboratory.

For the past several years the laboratory has been conducting detailed studies on various blood tests, particularly complement-fixation, for the diagnosis of poliomyelitis. The test devised by Dr. Lennette's group has been given extensive trial and appears to be well suited for certain kinds of work in the disease.

The laboratory is now engaged in trying to devise, or improve, blood tests, including complement-fixation tests for the diagnosis of virus infections related to poliomyelitis, such as Coxsackie and ECHO virus infections.

The increasing recognition of rabies in insectivorous bats in California this year emphasizes that

the reservoir of infection from this source cannot be ignored. Eleven cases of rabies in bats have been reported during the first seven months of 1959, exceeding the total number of cases recognized annually in the state since 1954, when the first isolation of rabies virus from a bat was made in California.

There have been two human rabies deaths due to bat bites, a 1958 case in Butte County, and one in Los Angeles this year in a person who had been investigating bat caves in Texas.

After September 18 California infants need not be footprinted at birth. A bill which repealed the law requiring footprinting of infants, as well as fingerprinting of the mother, was signed by the governor.

Another measure passed by the legislature was one to protect children from toys painted with toxic metallic compounds or that contain any diseased or decomposed substances or that have been exposed to insanitary conditions. This law also is effective September 18.

At the request of the California Academy of Pediatrics, the Bureau of Maternal and Child Health is participating in a seven-county study of child health services in preparation for the 1960 White House Conference on Children and Youth, and as a follow-up of the Academy's 1946 survey on child health services.

Selected physicians in Fresno, Orange, San Benito, San Francisco, San Mateo, Santa Clara and Shasta counties as well as all hospitals that serve children in those counties are being asked to complete questionnaires.

The Bureau is collecting data from the county health departments on population, economic and social status, health and health services, child welfare services, juvenile delinquency services and major problems in child health. The material obtained from these seven counties will be used as a supplement to the Child Health Fact Book being prepared by this department and the Academy of Pediatrics as the basis for the California Report to the White House Conference.

INFORMATION

Rehabilitation Aid to Needy Disabled

A Program for Improvement of Independent Function

A NEW STATE LAW that provides for medical and related services to be made available to recipients of Aid to the Needy Disabled (ATD) goes into effect October 1. It will be financed by the transfer of \$6 per recipient per month from general funds to the Medical Care Premium Deposit Fund on behalf of each recipient.

This act is to be administered by the counties, under supervision of the State Department of Social Welfare. The primary purpose of this program is to meet significant needs not generally met by resources in the communities where recipients live, and to render services which will assist the recipients in living more independently and with some comfort under the circumstances of their disabilities.

The ATD recipient group currently numbers about 6,500 people. It is anticipated that the number may reach 11,000 by the end of the next fiscal year. Among the recipients, very few have any income in addition to public assistance grant. Fewer than 10 per cent own their own homes, and fewer than 30 per cent have any personal property. About half of them are living with families that receive other kinds of public assistance; and 30 per cent of the recipients are in county hospitals.

Research determined that if total medical care was to be extended to all recipients, the cost would exceed the amount provided. In consultation with the ATD Advisory Committee and the Medical Advisory Committee and county medical consultants, various alternatives were considered and the following program was developed.

ATD recipients eligible for functional improvement services will be those who can benefit from physical restoration or achieve greater degrees of self-care through specified services and devices. Further conditions are that the required services are not otherwise available to them, and they must show evidence of sufficient motivation to warrant expenditures. Expenditures will not be made for such things as eyeglasses, dentures and hearing aids. The aid will not be available for persons in county hospitals, for they are presumed to be already provided with what they need, but it will be available, if they are otherwise eligible, when they leave the hospital to go home.

The services and items related to a plan for functional improvement shall not exceed \$300 in any 12-month period. Of this amount, the cost of medical diagnostic services shall not exceed \$75. The following services and items considered essential for a plan for functional improvement may be authorized for payment under this program:

1. Physician home or office visits, as indicated (including necessary x-ray and laboratory services), to evaluate functional improvement needs and to provide treatment and continuing direction of physical restoration and self-care services.

2. Nursing services, if the recipient lives outside a geographical area which is being served by visiting nurse services and if the public health department is unable to provide nursing services.

3. Physical and occupational therapy services under medical supervision for functional evaluation and/or treatment.

4. Appliances and assistive devices (excluding dentures, hearing aids and glasses) if not available from other sources in the community.

5. Household rehabilitation equipment, including bathroom rails, parallel bars, modified chairs and toilet seats, pulleys, overbed trapeze bars, bedboards and devices to aid dressing and eating.

Before services can be supplied under this program, authorization must be given in each case by the State Department of Social Welfare. The county shall identify the individual cases and recommend a plan to a state review team consisting of a medical consultant, a medical social worker and other necessary consultant services, who shall review each case and authorize a plan to provide functional improvement services. It is expected that cases in which the services might be of benefit will come to light through appraisal of the situation of persons at the time aid is first granted, through the annual review of continuing cases and through specific request by a recipient for such aid.

The State Department of Social Welfare has provided a monthly statistical report to show the services provided and results obtained under this program.

Designation of physicians eligible to certify persons under this program will be worked out between representatives of the county medical societies and the county welfare directors and their medical consultants.

Assurances have been given by state authorities that this program will move into operation slowly. Budget limitations will always be observed. Additional needs and expenses will be tabulated and reported to the legislature.

C.M.A. representatives on the Advisory Committee to the State Department of Social Welfare have been consulted on the development of this program.

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The California Academy of General Practice will present its eleventh annual Scientific Assembly at the Hotel Statler in Los Angeles, October 11 to 14, 1959. The meeting is expected to attract some 2,500 family physicians and their wives from the western states.

Among the topics which will be discussed are new drugs in gastroenterology, the coronary patient, pitfalls in diagnosis of fractures, practical laboratory medicine, cardiovascular emergencies, and elective induction of labor. Also on the program will be lectures on abdominal pain, hand injuries, cervicitis, a panel on modern treatment of carcinoma of the breast, osteoporosis and other surgical and obstetrical subjects.

Physicians attending the meeting, the academy's announcement said, will have an opportunity to hear such authorities as Milton H. Erickson, Phoenix, Arizona, president of the American Society of Clinical Hypnosis; Mayo physician Philip Hench, Rochester, Minn., speaking on the use of steroids; Gilbert H. Fletcher of Houston, radiation; Charles W. McLaughlin, Omaha surgeon; and James B. Donaldson, Philadelphia, a specialist on hypertension. A complete program and reservation information may be obtained from California Academy of General Practice, 461 Market Street, San Francisco 5.

* * *

Four simultaneous luncheon symposia and eighteen additional presentations on diagnosis and treatment of cardiovascular disease will be conducted by nine medical specialists at the 29th Annual Symposium on Heart Disease of the Los Angeles County Heart Association, October 7 and 8.

Dr. Walter S. Graf, chairman of the Professional Symposium Committee, said this 1959 symposia is outstanding for its wide range of content and will appeal to both clinician and research scientist. Special attention has been directed to the interest of the heart surgeon and pediatric cardiologist.

Reservations are being received by the Heart Association, 2405 West Eighth Street, Los Angeles 57. The telephone number is DUnkirk 5-4231.

* * *

The Society of Graduate Internists of the Los Angeles County General Hospital will hold its seventh annual clinical symposium at the Statler Hotel and the Los Angeles County General Hospital on October 30, 31, and November 1, 1959. Guest speakers will be Lauren V. Ackerman, M.D., St. Louis; Thomas Francis, Jr., M.D., Ann Arbor; Joseph B. Kirsner, M.D., Chicago; and David Rytand, M.D., San Francisco.

The society, an organization of former medical residents, sponsors a three-day clinical symposium each year.

SAN DIEGO

"Nursing for a Growing State" will be the theme of the 1959 convention of the California League for Nursing, to be held in San Diego, October 8 to 10, with headquarters

at the U. S. Grant Hotel. General program meetings will be held Thursday and Friday afternoon, October 8 and 9, with business sessions in the morning of each day. On Saturday, October 10, the California League for Nursing Council on Psychiatric and Mental Health Nursing and the CLN Council on Vocational Nursing will hold a joint program meeting. Business meetings of the two Councils will precede the program.

The Student Nurses' Association of California will meet concurrently and will join with CLN for some program sessions.

A number of pre-convention meetings will be held on Wednesday, October 7, including the first annual business and program meeting of the California League for Nursing Council of Visiting Nurse Associations.

SAN FRANCISCO

The Golden Gate Ileostomy and Colostomy Club, an organization whose purpose is to be useful to persons who have had such operations and to their physicians, will meet at the University of California Medical School on Friday, October 9, 1959, at 8 p.m. Guest speaker will be Dr. Hugo Charles Moeller, assistant professor of medicine at the University of California School of Medicine. His topic will be "Experimental Work Relating to the Cause of Ulcerative Colitis."

On Friday, November 13, at 8 p.m., the group will meet at Kaiser Foundation Hospital in Oakland. Colonel James E. Graham, chief of professional services and surgery at Letterman Army Hospital, will be the featured speaker. He will talk on "The Care and Management of a Colostomy" and will also discuss his battlefield experiences with wounds resulting in colostomies.

All members of the medical profession are invited to attend.

GENERAL

The Western Society for Clinical Research will hold its thirteenth annual meeting in Carmel on Thursday afternoon, Friday morning, and Saturday morning, January 28, 29 and 30, 1960.

Further information regarding the meeting may be obtained from the office of the Society's secretary, Dr. William N. Valentine, U. C. Medical Center, Los Angeles 24.

* * *

A Chrysler Fund contribution of \$22,500 to the National Fund for Medical Education was presented recently by John D. Leary, vice-president of Chrysler Corporation, to John S. Bugas, vice-president of Ford Motor Company and chairman of the automotive division of the National Fund for Medical Education. The National Fund for Medical Education annually awards grants to each of the nation's 82 medical schools to support basic medical research in the conquest of disease, and to improve standards of medical education in the individual schools.

* * *

The Second Western Regional Meeting of the International College of Surgeons is to be held at the Stardust Hotel in Las Vegas, November 22 to 24. The announcement of the meeting said that an excellent scientific program is being planned, with many outstanding speakers, as well as ample opportunity for the entertainment which Las Vegas offers. Registration begins Sunday, November 22, and scientific meetings are scheduled for Monday and Tuesday, November 23 and 24.

Further information may be obtained from F. M. Turnbull, Jr., M.D., 1930 Wilshire Boulevard, Los Angeles 57.

The annual meeting of the **Pacific Coast Fertility Society** will be held November 12 to 15 at the Tropicana Hotel, Las Vegas, Nevada. Guest speakers are Dr. Robert S. Hotchkiss, department of urology, New York University Medical School; Dr. John Rock, director of Free Hospital for Women and Reproductive Study Center, Brookline, Mass.; Dr. Herman Knaus, department of obstetrics and gynecology, University of Vienna, Austria; Dr. Joseph T. Velardo, department of anatomy, Yale University School of Medicine, New Haven, Conn.; and Dr. Milton Gross, director of the department of biochemistry, Margaret Hague Maternity Hospital, Jersey City, N. J. Further information may be obtained from Dr. Anah C. Wineberg, 3120 Webster Street, Oakland 9.

* * *

Four California members of the **American Physicians Art Association** won prizes for their exhibits at the organization's annual exhibit held during the convention of the American Medical Association at Atlantic City in June. Dr. John H. Gratiot, Monterey, won first prize in oil landscapes; Dr. Kurt Schnitzer, Santa Ana, first prize in photography; Dr. T. C. Stevenson, Menlo Park, first prize in oil portraits; and Dr. Richard H. Gwartney, retiring

EMERGENCY CARE RELIEVED OF LIABILITY

California physicians rendering emergency medical care at the scene of the emergency will not be liable for any civil damages as a result of any acts or omissions, under a new California law that goes into effect September 18.

This new provision in the Business and Professions Code removes a hazard that has made some physicians reluctant to render first aid in such circumstances.

president of the American Physicians Art Association, San Bernardino, third prize in crafts.

In addition to the prize winners listed above, California was represented by the works of the following seven physicians: Marsaal C. Cheney, Berkeley; William T. Clinte, Tulare; Harvard Ellman, Beverly Hills; Charles L. Colthamer, Van Nuys; William M. Netheny, Glendale; Walter Scott, Los Angeles; and Juso Tay Shintani, Los Angeles.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Teaching Clinics. Thursdays, September 17 through December 10. Twenty-four hours. Fee: \$50.00. (No meeting November 26.)

Common Problems of the Foot. Friday and Saturday, September 18 and 19. Lecture and Lab. Twelve hours. Fee: \$60.00. Lecture only. Nine hours. Fee: \$35.00.

Industrial Health (Public Health). Tuesdays, September 22 through December 8. Thirty hours. Fee: \$25.00.

Beginning Medical Terminology. Tuesdays, September 22 through February 2 (omit December 22, 29). Forty-five hours. Fee: \$35.00.

Counseling and Placement of Hospital Nursing Personnel. Wednesdays, September 23 through December 9. Thirty hours. Fee: \$25.00.

Public Health Statistics. Wednesdays, September 23 through February 3 (omitting December 23, 30). Forty-five hours. Fee: \$35.00.

Practical Clinical Chemistry for Laboratory Technologists. Wednesdays, September 23 through November 11. Twenty-four hours. Lecture and laboratory fee: \$35.00 plus \$5.00 breakage; lecture only \$20.00.

Medical Terminology: Advanced. Thursdays, September 24 through February 11 (omitting November 26, December 24, 31). Forty-five hours. Fee: \$35.00.

Diagnostic Parasitology (Pomona). Tuesdays, September 24 through December 15. Thirty-six hours. Fee: \$40.00.

Hypertension. Saturday, September 26. Six hours. Fee: \$20.00.

Eighth Continuing Education Conference WICHE (Tucson). Monday through Friday, September 28 through October 2. Fee: \$30.00.

Surgical Anatomy. Mondays, September 28 through November 30. Twenty hours. Fee: \$85.00.

Pathological Physiology of the Cardiovascular System. Mondays, October 5 through December 7. Twenty hours. Fee: \$60.00.

Advanced Clinical Electrocardiography. Tuesdays, October 6 through December 8. Twenty hours. Fee: \$60.00.†

Institute for Medical Consultants in State-Federal Rehabilitation Programs (Arrowhead). Sunday through Thursday, October 11 through 15. Twenty hours. Invitational.

Two-Week Rehabilitation Nursing Workshop. Daily, October 19 through 30. Thirty hours. Fee: \$25.00.

Neuropathology. Tuesdays and Thursdays, October 22 through December 10. Sixteen hours. Fee: \$100.00.

Aviation Medicine. Wednesday, Thursday and Friday, October 28, 29 and 30. Eighteen hours. Fee: \$65.00.

Photomicrography. Mondays, November 2 through December 7. Twelve hours. Fee: \$30.00 plus \$2.00 for manual.

Ear, Nose and Throat. Friday and Saturday, November 13 and 14. Twelve hours. Fee: \$60.00.

† Limited enrollment.

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Special Announcement: A Postgraduate Course in Mexico City, in cooperation with Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina, Mexico, D. F. Instructional Staff will be drawn from the staff of the U.C.L.A. School of Medicine and the staff of the Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina. The program will include lectures and presentation of Clinical Cases in: Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. Wednesday, February 25 through Saturday, March 5, 1960.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Administration of Nursing Care (Oakland). Tuesday evenings, September 15 through December 15. Fifty hours. Fee: \$35.00.

Nursing Care of Medical-Surgical Patient (San Mateo). Tuesday evenings, September 15 through December 15. Thirty hours. Fee: \$25.00.

Obstetrical Complications. Thursday through Saturday, September 17 through 19. Eighteen hours. Fee: \$50.00.

Nursing Care of Mothers and Children (San Mateo). Thursday evenings, September 17 through December 17. Thirty hours. Fee: \$25.00.

Medicine for General Practitioners (evening series). Tuesday, September 22 through November 17. Sixteen hours. Fee: \$35.00.

Advances in Physical Medicine. Friday and Saturday, September 25 and 26. Fourteen hours. Fee: \$40.00.

Nursing in Rehabilitation (San Leandro). Monday through Friday, October 12 through October 30. 105 hours. No fee.

Current Concepts in Nutrition. Monday evenings, October 12 through November 16. Twelve hours. Fee: \$15.00.

Use of Laboratory Methods in Office Practice. Thursday through Saturday, November 5 through 7. Twenty hours. Fee: \$50.00.

11th Postgraduate Assembly in Endocrinology and Metabolism. Monday through Friday, November 9 through 13. Thirty-five hours. Fee: \$100.00.

Adolescents (Children's Hospital). Saturday, November 14. Seven hours. Fee: \$12.50.

Man and His Environment: The Air He Breathes. Sunday through Tuesday, January 16 through 18. Eighteen hours.*

Course for Physicians in General Practice. Monday through Friday, March 7 through 11. Thirty-five hours.*

*Fees to be announced.

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOntrorse 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

Stanford University School of Medicine Scientific Symposium and Dedication of Stanford Medical Center. September 17 and 18, 9:30 a.m. to 5:00 p.m. Stanford Medical Center, 300 Pasteur Drive, Palo Alto, California. **Contact:** Dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto. DAVenport 1-1200.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Practical Diagnosis and Management of Cardiovascular Diseases. September 18 through 20. Twenty-one hours. Fee: \$65.00.

Intensive Review of Internal Medicine. Monday through Friday, September 21 through October 2. 9 to 12:30 a.m. Forty hours. Fee: \$65.00.

Bedside Clinics. Thursdays, October 8 through January 14. 7:30 to 9:30 p.m. Twenty-four hours. Fee: \$65.00.

Psychiatric Problems in General Practice. October 8 through December 17. Twenty-two hours. Fee: \$50.00.

Laboratory Methods. Friday, October 9. Seven hours. Fee: \$25.00.

The Doctor and the Family. Friday, October 16. Seven hours. Fee: \$25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: \$50.00.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: \$65.00.†

Dermatology Clinic. One-Day Symposium. Thursday, March 24.§

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16.§

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 4 through April 13. 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1. 63 hours. Fee: \$75.00.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. *Contact:* Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, November 9 through 13. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

†Hours to be announced.

§Fees and hours to be announced.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUBbard 3-3451.

Medical Dates Bulletin

AMERICAN COLLEGE OF GASTROENTEROLOGY. September 19 through 26. Biltmore Hotel, Los Angeles. *Contact:* Mr. Daniel Weiss, executive director, 33 W. 60th St., New York 23, New York.

SANTA BARBARA COUNTY HEART ASSOCIATION Symposium on Cardiovascular Disease. Saturday, September 19. 9:00 a.m. to 5:00 p.m. Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

SAN FRANCISCO ACADEMY OF GENERAL PRACTICE Fort Miley Surgical Clinics and Symposia. Tuesday evenings, September 22 through November 3, 8:00 p.m., Fort Miley Veterans Administration Hospital, San Francisco. *Contact:* Robert W. Wolf, M.D., 760 Market Street, San Francisco.

AMERICAN GROUP PSYCHOTHERAPY ASSOCIATION First Western Institute. September 23. Olympic Western Hotel, Seattle, Washington. *Contact:* Merlin H. Johnson, M.D., program committee chairman, V.A. Hospital, 4435 Beacon Ave., Seattle 8.

OREGON STATE MEDICAL SOCIETY Annual Meeting, September 23 through 25, Medford, Oregon. *Contact:* Mr. Roscoe K. Miller, executive secretary, 1115 S.W. Taylor St., Portland 5, Oregon.

SAN FRANCISCO HEART ASSOCIATION 29th Annual Postgraduate Symposium on Heart Disease. September 30, October 1 and 2, 9 a.m. to 5 p.m. daily, St. Francis Hotel, San Francisco. *Contact:* Lawrence I. Kramer, Jr., executive director, 259 Geary Street, San Francisco 2. YUkon 2-5753.

OCTOBER MEETINGS

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, INC. 18th Annual Meeting, held in conjunction with Third Western Industrial Health Conference, all day October 2 and 3, Statler Hotel, Los Angeles. *Contact:* A. C. Remington, M.D., medical director, AiResearch Mfg. Co., 9851 Sepulveda Blvd., Los Angeles 45.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 2 through 4, Miramar Hotel, Santa Barbara. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Clyde C. Greene, Jr., M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

SAN DIEGO COUNTY HEART ASSOCIATION Ninth Annual Symposium on Heart Disease. October 5 and 6, El Cortez Hotel, San Diego. *Contact:* O. M. Avison, executive director, 3545 4th Avenue, San Diego.

LOS ANGELES COUNTY HEART ASSOCIATION 29th Annual Professional Symposium. October 7 and 8, 9:00 a.m. to 5:00 p.m., Beverly-Hilton Hotel, Beverly Hills. *Contact:* Chauncey A. Alexander, executive director, 660 South Western Avenue, Los Angeles 5.

GOVERNOR'S CONFERENCE ON TRAFFIC SAFETY, Medical Division, Sacramento. October 8 and 9. *Contact:* Irma West, M.D., State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

CALIFORNIA LEAGUE FOR NURSING Annual Meeting, October 8 through October 10, U. S. Grant Hotel, San Diego. *Contact:* Ruth I. Jorgensen, general director, Room 202, 465 Post St., San Francisco 2.

KAISER FOUNDATION HOSPITALS Symposium on Physiology of Emotions. October 9 and 10, Fairmont Hotel, San Francisco. *Contact:* C. C. Herbert, M.D., Kaiser Foundation Hospital, 2425 Geary Boulevard, San Francisco.

CALIFORNIA ACADEMY OF GENERAL PRACTICE 11th Annual Scientific Assembly, October 11 through 14, 9:00 a.m. to 5:00 p.m., Hotel Statler, Los Angeles. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, St. Jude Hospital, Fullerton, October 29 and 30. *Contact:* B. L. Tesman, M.D., chairman, 1431 Fullerton Rd., Fullerton.

NOVEMBER MEETINGS

SAN DIEGO COUNTY HOSPITAL 13th Annual Postgraduate Assembly. November 4 and 5, 8:00 a.m., San Diego County Hospital. *Contact:* W. T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Ave., San Diego 3.

PACIFIC COAST FERTILITY SOCIETY 8th Annual Meeting. November 12 through 15, Las Vegas, Nevada. *Contact:* Anah Wineberg, M.D., secretary, 3120 Webster Street, Oakland.

CALIFORNIA SANATORIUM ASSOCIATION Annual Meeting. November 14, 9:00 a.m., Santa Clara County Hospital, San Jose. *Contact:* Morton R. Manson, M.D., director, Thoracic Service, Santa Clara County Hospital, San Jose.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS—District VIII Annual Meeting. Each morning, November 15 through 21, Royal Hawaiian Hotel, Honolulu. *Contact:* Harold K. Marshall, M.D., Secretary-Treasurer, District VIII, A.C.O.G., 202 Professional Building, Glendale.

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lectureship Dinner. November 20, Biltmore Hotel, Los Angeles. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State Street, Los Angeles 33.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long

Beach. December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

AMERICAN COLLEGE OF CHEST PHYSICIANS Fifth Annual Postgraduate Course on Diseases of the Chest. December 7 through 11, Ambassador Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, Executive Director, 112 East Chestnut St., Chicago 11, Ill.

1960 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Fourth Annual Midwinter Symposium. January 13, 9:00 a.m. Statler-Hilton Hotel. *Contact:* Walter S. Graf, M.D., Chairman, Professional Symposium Committee, Los Angeles County Heart Association, 660 So. Western Avenue, Los Angeles 5.

ORANGE COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease. January 23, 8:30 a.m. to 5:30 p.m. Gourmet Restaurant, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, Executive Director, P. O. Box 1704, Santa Ana, Kimberly 7-5976.

FRESNO COUNTY HEART ASSOCIATION Central California Eighth Annual Physicians Symposium. January 29, 8:30 a.m. to 5:30 p.m. Elks Club, Kings Canyon Road, Fresno. *Contact:* Max S. Millar, M.D., Chairman, Professional Services Committee, Fresno County Heart Association, 329 No. Van Ness, Fresno 1.

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7, Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

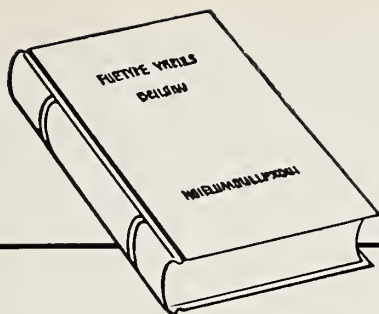
NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION Annual Convention. April 23 and 24, Claremont Hotel, Berkeley. *Contact:* Mrs. Anne Reece, President CMAA, 1837 So. Indiana St., Porterville, California.

PAN AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11, Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 20 through 22, Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5, Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.



THE PHYSICIAN'S *Bookshelf*

EYE SURGERY—H. B. Stallard, M.B.E., M.A., M.D. (Cantab.), F.R.C.S. (Eng.), Hon. LL.D. (St. Andrews); Surgeon, The Moorfields Eye Hospital; Eye Surgeon, St. Bartholomew's Hospital; Late Pathologist and Curator, The Moorfields Eye Hospital; Eye Surgeon, Radium Institute and Mount Vernon Hospital; Officer of the Order of St. John of Jerusalem; Major, R.A.M.C. (T.A.). Third Edition, Revised, 899 pages, with 671 illustrations, 1958. The Williams & Wilkins Company, Baltimore, Maryland, \$18.00.

This book like previous editions is well written and covers present-day accepted surgical procedures.

The chapter on anesthesia, local and general, has been revised clearly explaining present day techniques.

The plastic surgery discussion is thorough and indicated long years of experience.

In his chapter on glaucoma he discusses cyclodiathermy and cycloelectrolysis in addition to the accepted surgical procedures.

The chapter on corneal surgery is well written and easily understood.

The chapter on retinal and choroid diagnosis and treatment includes all the newer methods as well as the older well-tried procedures. Included in this chapter is the use of surgery of the vitreous.

The book has been written by a man with a wealth of surgical experience who has supplied to the reader the procedures that have stood the test of time.

ALFRED R. ROBBINS, M.D.

* * *

LONG-TERM ILLNESS—Management of the Chronically Ill Patient—Edited by Michael G. Wohl, M.D., F.A.C.P., former Clinical Professor of Medicine (Endocrinology), Philadelphia General Hospital and Temple University School of Medicine; Chief of Nutrition Clinic, Philadelphia General Hospital; Consultant Physician in Medicine, Albert Einstein Medical Center; Attending Physician, Home for the Jewish Aged. With the Collaboration of: Seventy-nine Contributing Authorities. W. B. Saunders Company, Philadelphia, 1959. 748 pages, \$17.00.

CARE OF THE GERIATRIC PATIENT, THE—E. V. Cowdry, Ph.D., Sc.D. (Hon.); Director of Wernse Cancer Research Laboratory, Washington University School of Medicine; formerly President of the Gerontological Society and of the Second International Gerontological Congress; Chairman of the Medical and Scientific Committee, American Society for the Aged, Inc. The C. V. Mosby Company, St. Louis, 1958. 433 pages, \$8.00.

The measure of current interest in any given area of medicine is reflected in the number of books published on the subject. Thus, the increasing number of old people in the United States and the consequent increasing importance of diseases of older people—and of chronic disease—have begun to bring forth a spate of medical literature. Two of the better recent books in the field are reviewed below: Long-Term Illness and The Care of the Geriatric Patient.

The treatment of chronic illness is developing rapidly along two main courses. The first is along the line of tradi-

tional medical therapy. The second is the particular outgrowth of rehabilitation principles evolved during and since World War II. These books demonstrate and include this dichotomy, but leave the reader to differentiate for himself.

The Care of the Geriatric Patient is a comprehensive series of monographs, addressed primarily to the physician, on the practical care of geriatric patients. It accentuates the emotional, mental and physical differences between old people and those of fewer years.

In this monographic type presentation, each author offers his own viewpoint on a given subject—without regard for the other contributors. Consequently, there is a certain amount of overlapping and duplication: For example, in Chapter 3 on Medical Aspects of Geriatric Care and Chapter 16 on Rehabilitation of the Geriatric Patient; and in Chapter 4 on Mental Aspects of Geriatric Care and Chapter 11 on Geriatric Nursing. There is also, at times, a conflict of opinions, due to the wide variance in background and experience of the various authors, and this is apt to be confusing to the reader.

Despite these criticisms, the physician will find this a valuable volume of information on the care of older people. It gives good insight on what can be—and is being—done for geriatric patients. Doctors probably will find most appealing Chapters 3 to 7 which discuss the medical, mental and surgical aspects of geriatric care. (In Chapter 3, Paul Starr has compressed an entire text into 44 pages; this is particularly recommended reading!)

The use of the title Long-Term Illness mirrors the changing outlook in the management of chronic disease. Although today's doctor realizes the prolonged nature of the condition with which he is dealing, he need no longer look upon that condition simply as an irreversible pathologic process that leaves the patient completely disabled. Although he may not be able to cure most chronically ill patients, he may be able to do a great deal for them. Indeed, some chronic diseases, such as diabetes and pernicious anemia, may in certain cases become a matter of education as much as treatment. And many other chronically ill patients, for whom the outlook was formerly considered hopeless, have been able to achieve a high level of self care.

Doctor Wohl has gathered together a large number of contributors to present as many aspects of long-term illness as possible. Brought into a single volume for the benefit of the practicing physician interested in treatment of the chronically ill, this tends to break down some of the barriers of specialization existing today. For example, the doctor has in one book, considerations of prostatism or of urolithiasis by a urologist, of deafness by an otologist or of chronic diseases in children by a pediatrician. (We can anticipate that the complexities and details as discussed in the treatment of these multifarious conditions will probably create a new group of "specialists in chronic disease!")

Long-Term Illness is divided into two sections. The first 90 pages deal with general principles. The first portion of

Chapter 1 is concerned mainly with hospital facilities for veterans; but the second portion of Chapter 1 on home care and Chapter 3 on psychological problems of the chronically ill have a much broader scope. There are also interesting chapters on multiphasic screening, rehabilitation and nursing procedures.

The second and larger portion of the book is occupied by the therapy of specific diseases. The admitted emphasis is on management. In general, treatment is discussed first and etiology, diagnosis and pathogenesis are taken up only insofar as they relate to treatment.

Although, as a new approach, this book is generally very well done, the reviewer notes that in some chapters the accent on therapy degenerates into a listing of preparations. Proprietary names are used too often (without their pharmaceutical equivalents), and a few of the chapters suggest that the contributors have not kept up with the literature of the past 10 years.

The practicing physician and the medical student interested in the challenge of chronic disease will find this volume a good reference.

EDGAR WAYBURN, M.D.

* * *

DIFFICULT DIAGNOSIS (A Guide to the Interpretation of Obscure Illness)—H. J. Roberts, M.D.; Diplomate of the American Board of Internal Medicine; Fellow of the American College of Chest Physicians; Associate of the American College of Physicians; Staff, Good Samaritan Hospital and St. Mary's Hospital, West Palm Beach, Florida; Formerly, Research Fellow and Instructor in Medicine, Tufts University Medical School; Formerly, Research Fellow and Instructor in Medicine, Georgetown Medical School. W. B. Saunders Company, Philadelphia, 1958. 913 pages, \$19.00.

In the mid-twentieth century American medicine has at its disposal the skilled manpower and the laboratory aids to make a higher percentage of antemortem diagnosis far earlier than would have been thought possible only a few years ago. Although this is one of the distinguishing traits of our period Dr. Roberts is the first with the vision to attempt to integrate it for the benefit of the physicians most concerned, the internists. The result is a volume which is basically a differential diagnosis of obscure diseases.

The book is composed of two main parts. Over 600 pages are devoted to the principal aspect, the differential diagnosis of "related diseases frequently producing puzzling illness," classified into 17 groups. In addition to most of the conventional groupings along clinical lines, there are separate chapters emphasizing the importance of iatrogenic illness, cutaneous medicine (with an atlas of 99 photographs) and obscure postoperative complications. Of interest is the fact that the gastrointestinal tract is included only in the chapter "Medical-Surgical Diagnostic Problems Relating to Obscure Abdominal Pain, Gastrointestinal Hemorrhage, and Intestinal Obstruction."

Slightly less than 200 pages are included under "A Classification and Analysis of Useful Diagnostic Procedures." In general, these are grouped along conventional lines but there are provocative deviations. "Studies of the Eyes in Systemic Disorders" might well be included in Part I next to Cutaneous Medicine. The sections on therapeutic diagnostic tests, withdrawal tests and provocative tests are all of considerable interest.

In a way Roberts wrote this book for his own guidance, to serve him as a practical refresher course in differential diagnosis at the internist's postgraduate level. He has displayed a broad knowledge, a tremendous ability to pluck from and to correlate recent American medical literature and the capability of compressing it all into readable form.

The author is the first to recognize (in the preface) that

there are many faults of omission and commission in this book as a text. A single physician's limitation of knowledge, his training, his personal biases are all apparent. In using the book the reader must be aware of these. Despite the extensive and excellent cross-indexing, it is hard for one to find his way around. Some of this could be improved by additional index recessions in the cut end of the pages (similar to those in a dictionary); there should certainly be one at the beginning of Part 2. The type at the beginning of the chapters should be more distinctive if the subtitles are to be used as differential diagnosis lists. More tables of differential diagnosis would crystallize the discussions. The very nature of the book involves much use of the references, which are hard to get at especially at the end of Part 1. Putting these at the end of each section might help. Finally a specific section on *how to use this book* would help the reader.

To summarize, this book can be of real value to the internist. It offers him a tool in the differential diagnostic problems he comes across almost daily. It is a reasoned text on diagnosis which includes the various ancillary methods he may wish to employ. It is a book which contains a mass of miscellaneous information, specifically and rationally directed towards diagnosis. We commend especially the orientation around iatrogenic disease.

EDGAR WAYBURN, M.D.

* * *

PATIENT CARE AND SPECIAL PROCEDURES IN X-RAY TECHNOLOGY—Carol Hocking Vennes, R.N., B.S., formerly Surgical Supervisor and Clinical Instructor, University of Minnesota Hospitals, Minneapolis, Minnesota; and John C. Watson, R.T., Director of Courses in X-Ray Technology, University of Minnesota Hospitals, Minneapolis, Minnesota. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Missouri, 1959. 203 pages, \$5.75.

Drive not a second nail till the first be clinched, goes an old saying. If student x-ray technicians, students of medicine who are first coming in contact with x-ray departments, and student nurses would read this little manual, the welfare of patients in x-ray departments and offices would be greatly enhanced and the thoroughness of many examinations achieved with greater ease. There are many excellent books on x-ray technique but to this reviewer's knowledge, this is the first monograph dealing with the handling and care of the patient undergoing roentgen diagnostic procedures.

After three introductory chapters dealing with general patient care, the relation of the technician to the patient and the elements of first aid care in emergencies, there is a succession of chapters dealing with routine and special procedures.

In the chapter dealing with general radiography and fluoroscopy there is a good summary of modern contrast media, radiation hazards and sterile technique. In the special chapters there is excellent information concerning improved methods of bedside radiography, the handling of patients needing special care such as the critically ill patient, the cardiac, the respirator case and the orthopedic problem. The handling of patients with various types of intubation, in the x-ray department, at the bedside and in the operating room is well described. The place of the technician in neuroradiography, vascular radiography and certain other contrast procedures is ably outlined. Matters dealing with sterile precautions, isolation techniques and so forth are summarized. The manual is well illustrated and indexed. It can be heartily recommended to x-ray students, student nurses and those who would attempt the teaching of such.

L. HENRY GARLAND, M.B.

HYPERTENSION—The First Hahnemann Symposium on Hypertensive Disease—Edited by John H. Moyer, M.D., Professor and Chairman of the Department of Medicine, Hahnemann Medical College and Hospital. W. B. Saunders Company, Philadelphia, 1959. 790 pages, 77 figures, \$5.75.

This is a first rate symposium held in December 1958 by many acknowledged masters in the field. The book covers certain major headings: Part I is the "Pathology and Clinical Aspects of Hypertension"; Part II is the "Basic Concepts of the Etiology of Hypertension"; Part III is the "Pharmacology of Hypertension and the Use of Sympathetic Blocking Agents"; Part IV concerns the "Role of Salt and Diuretics in the Therapy of Hypertension," as well as a discussion of special problems in the therapy of hypertension; and Part V is the "Surgical Approach to Hypertension," as well as a discussion of effective therapy on prognosis in patients with hypertension.

One of the striking features of the book is that each individual contributor summarizes work in his particular pertinent field in very succinct fashion, and concludes with a detailed and up-to-date bibliography. The bibliography at the end of each discussion is the most up to date that the reviewer has seen anywhere. The book is also lavishly illustrated, and at the end of each major section, the participants in the symposium have a free discussion during which the controversial points are threshed out. Each discussion is led by a moderator who pinpoints the pertinent questions.

While the book does not have the coordinated feeling of the texts written by a single individual such as Pickering or Smirk, it presents a broadly based discussion of the current situation in hypertension from many points of view. The editor and the publishers are to be complimented on the speed with which the book has been put together since the papers were presented in 1958, and the book was marketed in May, 1959. References of publications in 1958 and even 1959 are included, indicating that this book is the last word in its field. It can be highly recommended to anyone interested in hypertension. The clinician will find details of therapy; the physiologist will find an adequate discussion of the physiological changes in the section of the "Basic Concepts of Etiology"; the pharmacologist will find ample discussion of the mechanism of action of drugs, and the pathologist will find a good discussion of pyelonephritis, and the pathology of the kidney and adrenal glands. The one subject which is only minimally discussed concerns the psychological factors in hypertension. There is one excellent chapter by Mills on hypertension and stress occupying 10 pages, but this is all the space that is given in a book of over 700 pages. The other criticism might be that there is no discussion of the central nervous system in hypertension, with particular reference to the cortex and hypothalamus. With these two relatively minor defects, the book can be heartily recommended.

MAURICE SOKOLOW, M.D.

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THE SYMPTOM AS COMMUNICATION IN SCHIZOPHRENIA—Editor, Lieutenant Colonel Kenneth L. Artiss, M.C., Division of Neuropsychiatry, Walter Reed Army Institute of Research, Washington, D. C. Grune & Stratton, New York, 1959. 233 pages, \$5.75.

This monograph is a report of research done by workers in the Army under the Division of Neuropsychiatry of the Institute of Research in collaboration with the Department of Psychiatry of the Hospital of Walter Reed Army Medical Center.

As stated in an excellent introduction by Rioch, there were two major objectives of the study. The first was an "... investigation of the principle and effectiveness of milieu therapy in an Army hospital for patients suffering

their first psychotic (schizophrenic) episode." The second objective was a study of the course of the schizophrenic illness of the patients involved in the project. This included a study of the family background, precipitating factors, the setting in which the illness became manifest, the therapy and follow-up studies on those patients that returned to duty. In addition to the introduction, the book is made up of seven chapters by the several authors under the editorship of Lieutenant Colonel Kenneth L. Artiss.

In the first chapter Dr. Artiss outlines the general theoretical position of the study. In this he describes the study as a behavioral science study in which use is made of the interdisciplinary approach involving psychiatry, social work, sociology and anthropology. He describes the model which was gradually evolved, consisting principally of the idea of a transaction between a patient and a group. It is the opinion of the authors that viewed in terms of this model, their studies indicate that young schizophrenic patients developed symptoms designed to release them from the group. Further, their studies indicate that the element of status in the group tended to provoke the symptoms in the patients. The essence of the communication in the patient's statement is stated as "I am weak and ineffectual" and that this appears to be set up in order to protect a phantasy of omnipotence in the patient.

Artiss points out that the work is based on a broad background of psychoanalytic thinking in addition to the special approaches of Reich, Alexander, Adolph Meyer and Harry Stack Sullivan.

In the introductory chapter the author gives an extremely interesting discussion of the Army as a cultural subgroup, together with other material. In the other chapters of the book are included material describing the collection of the data and the methodology. There is an excellent description of the breakdown of the schizophrenic during the training, followed by a study of the patient in therapy. Included also is a description of the study of the family background.

The book is recommended to psychiatrists and to physicians who have an interest in schizophrenia and research on that subject. The material included in the book represents an excellent representation of an attempt to investigate the problem of schizophrenia as it arises in this special situation and as it is viewed by workers in several disciplines.

CHARLES W. TIDD, M.D.

* * *

CASE HISTORIES IN HYPNOTHERAPY — Arnold Furst and Lester T. Kashiwa, M.D. The Genii Publishing Company, Los Angeles, California. Distributed by AAA Publishing Co., 345 "I" Street, San Bernardino, 1959. 163 pages, \$10.

There seems to be a superfluity of books on hypnotherapy in the literature these days and this latest one has, in the opinion of the reviewer, all the defects of the antecedent ones.

On the positive side the book describes, in a clear and concise manner, a variety of techniques of induction and other technical aspects of hypnosis which are equally well described in an abundance of other sources. The authors appear to have little interest in the theoretical aspects or implications of hypnosis and are generally sanguine and naive with regard to both their comprehension of the phenomenon of the hypnotic process and their gross underestimation of the dangers and contraindications of hypnotic work. In the book a scant page and a half of cursory material is devoted to the latter.

It is the decided opinion of this reviewer that a detailed, comprehensive knowledge of personality structure and psychodynamics is essential if one is to practice hypnosis with-

out harm to the patient. It is unfortunately true that this knowledge and experience is not usually gained through any means other than a complete psychiatric training. The amount of harm that can be done by lay hypnotists and by nonpsychiatric physicians is not, I believe, recognized generally or by the authors of this book.

C. W. WAHL, M.D.

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LEPROSY IN THEORY AND PRACTICE—Edited by R. G. Cochrane, M.D., Ch.B. (Glas.), F.R.C.P. (Lond.), D.T.M. and H.; Technical Medical Adviser, American Leprosy Missions, Inc.; Adviser in Leprosy, Ministry of Health, London; Vice-President, International Leprosy Association; Honorary Member, Indian Association of Leprologists. With a foreword by Sir George McRobert, C.I.E., M.D. (Aberd.), F.R.C.P. (Lond.), Senior Physician, Hospital for Tropical Diseases, University College Hospital, London; Formerly Professor of Medicine, Madras Medical College. Published in Bristol: John Wright & Sons Ltd., 1959. The Williams & Wilkins Company, Baltimore 2, Maryland, exclusive U. S. agents. 407 pages, \$15.00.

So many monographs on leprosy are available that one wonders what new features still another has to offer. One immediately notes that this is a collaborative text; 24 contributors have written various chapters. The result is an authoritative work dealing with every aspect of this interesting disease, handsomely and profusely illustrated. The reviewer wonders why the old error as to Hansen's part in the definition of the bacillus persists in the chapter on etiology. A review of the original papers on the subject shows that Hansen was really in great uncertainty and doubt about what he saw as he was not a trained bacteriologist and was unskilled in the finer methods. It was Neisser who went to Norway and brought home material which when properly strained showed the little rods so clearly. But this is a minor point and all aspects of leprology are adequately covered in this excellent monograph of some 400 pages.

ARTHUR L. BLOOMFIELD, M.D.

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INDUSTRIAL CARCINOGENS (Modern Monographs in Industrial Medicine—4)—R. E. Eckardt, M.D., Ph.D., F.A.C.P., Director, Medical Research Division, Esso Research and Engineering Company, Linden, N. J.; Associate Clinical Professor of Industrial Medicine, New York University, Postgraduate Medical School; Instructor in Medicine, Cornell University, Medical School. Grune & Stratton, New York, 1959. 164 pages, \$6.50.

Too often too many physicians in the general practice of medicine erroneously believe that for them there pertains little of value in articles or textbooks dealing with industrial medicine. It is to be hoped that such an attitude will not prevail when this monograph on Industrial Carcinogens comes to their attention. Although this book points out the occupational origin of certain cancers, it is to be remembered that it is very likely that the occurrence of such will come first to the attention of the family doctor.

As stated in the foreword of this book "research into the basic cause, or causes, of cancer has assumed in recent years tremendous proportions. While these causes still elude us, industrial physicians and hygienists, with their specialized researches, have demonstrated that certain substances are undoubtedly carcinogenic." In the pages which follow this introductory remark, Dr. Eckhardt proceeds to indicate those cancers in which (1) there is no doubt as to their occupational origin, (2) those in which the possibility exists that the etiology might be an occupational carcinogen and (3) those in which evidence is only fragmentary and acceptable statistical data lacking.

The book is divided into the following parts: Historicals, Experimental Carcinogens, Occupational Cancers, Protec-

tive Programs, Medico-legal Considerations and a Look Into the Future. Most fascinating is that portion devoted to the history of occupational cancer from 1775 (scrotal cancer in chimney sweeps) to the present. In the historical review there appears this significant statement, "a total of about 72 per cent of all occupational cancers have been the result of coal tar and shale oil exposures, and, fortunately, have involved the skin, a site most accessible to early diagnosis and treatment."

In the chapter on Occupational Cancers the author considers mostly the same organs or systems of the body that were studied in Experimental Carcinogens. There is much material in these two chapters that will change the concepts previously held by some of us, as, for example, the discussion on cancer of the bladder.

In this age of large awards accorded claimants, the physician who seeks to render a scientific, unbiased opinion will find well defined criteria upon which to render an opinion as to whether a given cancer is or is not of occupational origin. These are given in the chapter on Medico-legal Considerations.

Most textbooks as well as the reports from Cancer Commissions give little or no space to Occupational Cancers. Therefore this book serves to fill that void.

This reviewer is amazed at the amount of information contained in this monograph of only 164 pages. It is easy reading and adequately indexed. Of interest to any physician, it should be especially so to the dermatologist, urologist and chest physician.

R. T. JOHNSTONE, M.D.

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FUNDAMENTALS OF OTOLARYNGOLOGY—Third Edition—A Textbook of Ear, Nose and Throat Diseases. By Lawrence R. Boies, M.D., Professor of Otolaryngology, Chairman, Department of Otolaryngology, University of Minnesota Medical School. W. B. Saunders Company, Philadelphia, 1959. 510 pages, \$8.00.

Primarily intended for use as a textbook by undergraduates, Boies' *Fundamentals of Otolaryngology*, which was first published in 1949, is now in its third edition. Despite its diminutive size in relation to that of other texts on this subject, this book is a didactic giant. It is certainly deserving of the high esteem in which it is held by so many prominent teachers of otolaryngology. The sections devoted to physical diagnosis are especially valuable to the medical student.

This new edition represents a much more comprehensive revision of the previous edition (1954) than is ordinarily encountered in medical textbooks. There is a brand new section on applied anatomy and physiology of the ear. Added to the chapter on hearing loss are sections on traumatic perception deafness, tympanoplasty, and stapes mobilization. The chapters on tinnitus and vertigo are entirely new. Also included, is a new chapter devoted to the common cold. The revised chapter on sinus disease occupies less than half the space given to the subject in the earlier editions. Other additions include chapters on reconstructive surgery of the nose and diseases of the salivary glands. This volume, like the previous editions, contains an excellent bibliography at the end of each chapter; the bibliographies have also been thoroughly revised. Many new illustrations of appropriate quality have been inserted.

Although some of the subject matter included in this book is controversial, and despite the fact that some of the revised portions of the text were, in the opinion of this reviewer, better prior to revision, the new edition of this book is believed to be one of the finest works of its kind ever published.

CHARLES P. LEO, M.D.

TUBERCULOSIS MEDICAL RESEARCH—NATIONAL TUBERCULOSIS ASSOCIATION, 1904 - 1955—Virginia Cameron, formerly Medical Research Secretary, and Esmond R. Long, M.D., formerly Director of Medical Research, both from National Tuberculosis Association. Published by National Tuberculosis Association, 1790 Broadway, New York 19, N. Y., 1959. 325 pages, \$5.00.

The role of the National Tuberculosis Association in the support of scientific investigation is not well known and information previously recorded is scattered widely. This volume brings together the records of the Medical Research Committee of this association and does much to refute a commonly held opinion that the N. T. A. has neglected this field. This authoritative record should be in every medical library and is of great interest to all who have followed the remarkable advances in tuberculosis research.

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INSULIN TREATMENT IN PSYCHIATRY—Proceedings of the International Conference on the Insulin Treatment in Psychiatry Held at the New York Academy of Medicine, October 24 to 25, 1958. Edited by Max Rinkel, M.D., (Boston, Massachusetts) and Harold E. Himwich, M.D., (Galesburg, Illinois). Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1959. 386 pages, \$5.00.

This book records the proceedings of the "International Conference on the Insulin Treatment in Psychiatry" held at the New York Academy of Medicine October 24 and 25, 1958. It contains articles on the historical, physicochemical and clinical aspects of insulin treatment. The contributors include representatives of North America, South America and Europe, espousing varying points of view, though all seemingly somewhat favorably disposed toward insulin treatment. Various participants discuss the papers presented, and there is a considerable bibliography.

The book and the conference whose proceedings it reports are a tribute to Manfred Sakel who introduced Insulin Shock Treatment for Schizophrenia. The tribute is certainly deserved, since Sakel introduced a note of hope and enthusiasm into what was then a bleak outlook of treatment of this fearful illness. Unfortunately, a number of the contributors seem to imply that Sakel's treatment is the ultimate one for schizophrenic illnesses. Indeed, insulin is claimed by some of the participants to "cure" or "eliminate" the illness. Other contributors are more conservative and see it only as speeding up the remissions in "recoverable" cases. Statistics quoted by the various authors and discussants range from those indicating vast superiority of insulin-treated over control groups to those which show no great difference between treated and untreated cases in a ten-year follow-up.

The book offers a good review of the various arguments in favor of insulin treatment and encourages psychiatry to reverse the present trend away from it. Its major fault would seem to be its apparent bias toward organic therapies and, particularly, insulin, even though some contributors speak encouragingly of psychological approaches to treatment. A few of the participants seem inclined to take an offhand slap at psychotherapy from time to time. There is some implication that psychotherapy is unscientific and unsoundly based. In fairness to the proponents of psychotherapy it should be observed that the speculations advanced in some of the clinical papers, as to the action of insulin at the cellular level, seem quite as unscientific, in the absence of any evidence to prove them, as the most abstruse psychodynamic theories that might be advanced. There seems sometimes to be the implication that what makes a theory "scientific" is not the soundness of the evidence on which it is based, but the fact that its terminology is anatomic, biochemical or mathematical. The bias for

organic therapies is probably explainable on the grounds that the Conference was a tribute to Dr. Sakel who was himself a proponent of such an organic orientation. Yet the fault is not less a fault for all that, in a book which is implied to be an objective collation of views on both sides.

It is a pity, though this book is by no means a unique example in medicine, that the followers of a pioneer in the field should later be the most jealous guardians of the frontier, against other pioneers.

D. A. SCHWARTZ, M.D.

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A DOCTOR REMEMBERS—By Edward H. Richardson, M.D., Associate Professor Emeritus of Gynecology, The Johns Hopkins University School of Medicine, Baltimore, Maryland. Vantage Press, Inc., 120 W. 31st Street, New York 1, N. Y., 1959. 252 pages, \$3.95.

Anyone who graduated from medical school more than a dozen years ago knows the name Edward H. Richardson in association with gynecology. He was Associate Professor of Gynecology at John Hopkins and was renowned especially for the Spalding-Richardson composite operation for uterine prolapse and for his technique of total abdominal hysterectomy. A variant of his technique is widely used today under the name of intrafascial hysterectomy. In this little volume Dr. Richardson has told his story from childhood through his many years of practice in the field of gynecology. His chronicle will be of special interest to all those who received any part of their medical education, or of their resident training at Johns Hopkins; and more particularly it will interest those who are in gynecology.

The anecdotes of his boyhood days reflect life in rural Virginia in the latter part of the last century. They also reveal Dr. Richardson's early determination and high resolve. Especially interesting is his account of attendance at the Eastman Business College and his later job with the Farmville Commercial Company as bookkeeper and cashier at the tender age of 16 because of his knowledge of accounting.

Dr. Richardson received his college education at the Virginia Polytechnic Institute and at Hampden-Sydney College which was only a few miles from his place of birth. He then attended Johns Hopkins Medical School after being forced to put in an extra year of premedical work at Johns Hopkins University because of a qualification which he lacked. He showed great determination in overcoming this unexpected obstacle.

The highlights of the book are the descriptions of the Big Four, Welch, Osler, Halstead and Kelly who were all there as professors while he was going through the medical school, and indeed he worked as a house officer under the latter two, and of his postgraduate years in training. He paints a very interesting picture of Howard Kelly especially and depicts him as a very hard working man who was a religious fanatic all of his life and very much of a showman in the operating room. He tells us that Kelly resigned his professorship in 1919 at the age of 60 years because he was not in sympathy with the full-time system which was introduced at Hopkins at that time. Dr. Richardson expresses himself as also unsympathetic with the full-time system, at least for the chairmen of the clinical departments. It is interesting to note that Dr. Richardson spent fourteen years getting his college and medical education and not until the last one did he receive a penny in salary. Not one breath of complaint does he utter against this circumstance—indeed he views these years with great nostalgia.

Of great interest will be the account of the offer to him of the professorship of Gynecology when Dr. Cullen retired. I believe that all of his readers will applaud his decision

not to accept the offer because of his age of 63 years. This was no doubt a very difficult thing for Dr. Richardson to do because there could not have been anything that he would rather have had happen to him, if only it could have come at a better time in his life.

Another point of interest is the vehemence with which he expresses his dislike of the conception of a combined Department of Obstetrics and Gynecology. Of course he was brought up under the other system and this represents typical Hopkins thinking. He will be distressed by the current move to effect a combination when the present retiring departmental chairmen are replaced.

DANIEL G. MORTON, M.D.

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PREVENTIVE MEDICINE—Principles of Prevention in the Occurrence and Progression of Disease—Edited by Herman E. Hilleboe, M.D., Commissioner of Health, State of New York; and Granville W. Larimore, M.D., Deputy Commissioner of Health, State of New York. W. B. Saunders Company, Philadelphia, 1959. 731 pages, 59 figures, \$12.00.

This text is outstandingly attuned to the instruction of physicians and medical students in their present-day responsibilities for preventive medicine. Public health workers recognize that the State health departments of California and New York have the most advanced programs of research and service in the nation; both tie their programs into medical practice. Dr. Herman Hilleboe, New York's Commissioner of Health, has developed very extensive teaching responsibilities of his staff in the medical and public health schools of his region. In this text we can study those excellent presentations. In no sense are they provincial and are just as applicable to California as to New York.

The content is developed logically in three parts. Part One is the Prevention of Occurrence. Part Two is Prevention of Progression. Part Three is Supporting Sciences for Preventive Medicine. Under Part One, Primary Prevention, are first considered environmental factors, with excellent discussions of the basic problems of water, milk, waste; but, in addition, the very modern problems of housing, accidents, air pollution, ionizing radiation and medical defense against atomic attack or natural disaster. These are the most concise and at the same time, thoroughly up-to-date discussions to be found in any book of 1959.

Next the authors consider prophylactic measures against diseases. The bacterial, virus, rickettsial, fungus, parasitic and venereal diseases are succinctly discussed systematically under the headings *definition, etiological agent, diagnosis, epidemiology, treatment and prevention and control*. Preventive aspects of nutrition, dentistry, and maternal and child health complete "primary prevention." "Secondary prevention" again emphasizes the role of the practicing physician with extensive discussions of early detection, systematic follow-up, with correction and then rehabilitation. There are excellent summaries of alleviation of alcoholism and narcotic addiction.

The Third Part, "Supporting Science for Preventive Medicine," includes the role of education, not only general health education, but also a practical chapter on patient education and one on the postgraduate education of physicians. Its second section includes a discussion of pertinent specialized sciences such as social work, public health nursing, the hospital, and a very stimulating and provocative chapter on epidemiology. Dr. Hilleboe concludes with his authoritative, though perhaps too condensed consideration of official and voluntary health agencies. A master administrator, he might well have expanded this chapter to the advantage of all of us.

While there are thirty-one collaborators, their styles are

in harmony and each stresses only salient points with notable emphasis on the role of the physician in practice. Each author cites fully current references, a number of 1958 articles being cited. Thus, amphotericin B is mentioned for the deep mycoses, so is Nalline as the test for presence of narcotic addiction and, with an eye to the immediate future, Hilleboe alludes to the full *fifty* states!

This is an outstanding acquisition, recommended for its completeness, readability, and, especially, its original perspective.

CHARLES E. SMITH, M.D.

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MIND IF I SMOKE?—Harold Shryock, M.A., M.D. Pacific Press Publishing Association, Mountain View, California, 1959. 160 pages: paper binding, \$.50; cloth binding, \$2.50.

This small booklet deals with the pros and cons of smoking, with a few omissions. The author notes the association of lung cancer with cigarette smoking but fails to note the well-established association of bladder cancer with the same drug. He quotes the Hammond and Horn conclusions but not the Berkson. He believes that many of those who defend smoking are either engaged in the tobacco industry or are swayed by the Federal taxes resulting from tobacco consumption. The book is reportedly designed for laymen but it is doubtful if readers of weekly or monthly magazines will find anything particularly new. Nevertheless, if it helps to cure a few addicts it will have served some purpose.

If a second edition is published it should include reference to "Emotional and Other Selected Characteristics of Cigarette Smokers and Nonsmokers as Related to Epidemiological Studies of Lung Cancer and Other Diseases" by Lilienfeld (Journal National Cancer Institute, 22, 259, 1959).

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NOTES OF A SOVIET DOCTOR—2nd Edition, Revised and Enlarged—G. S. Pondev, Honored Physician of the Georgian SSR. Translated from Russian by Basil Haigh, M.A., M.B., B.Chir. (Originally published by the Georgian Medical Press, 1957.) Consultants Bureau, Inc., 227 West 17th Street, New York 11, N. Y., 1959. 238 pages, \$4.95.

This book is of great interest to the American reader and one's general impression is that East is East and West is West and never the twain shall meet. The writer exudes an almost evangelistic enthusiasm for Marxist-Leninist philosophy and points out its application to socialized medicine. The first chapter opens with the recognition that the Soviet doctor's education is purely theoretical; that he or she is "today launched straight from his medical school into working on his own responsibility." This inadequacy is to be overcome by ensuring "that the medical schools produce literate and scientifically able doctors with a highly developed sense of patriotic duty and a readiness to serve their country wholeheartedly." And in conclusion "only that doctor who combines a specialist's knowledge of medicine with a Marxist and Leninist interpretation of society and who is firmly grounded in the materialistic doctrine can be regarded as a perfect Soviet doctor."

But the bulk of the book is a historical sketch of the development of medicine with much interesting material on Russian contributions and chapters containing excellent advice about the doctor's attitude to disease and patients which could be read to advantage by every medical student and young doctor.

However, despite these redeeming features, one has the feeling that

All that's said is marr'd.

ARTHUR L. BLOOMFIELD, M.D.

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Facts and Fallacies About Gonorrhea and Syphilis

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ONE MIGHT INQUIRE why we, in these latter days, should concern ourselves with facts and fallacies about gonorrhea and syphilis. In this regard—and since we are here in San Francisco—let us consider your sister metropolis to the south, Los Angeles. Among all the communicable diseases, venereal disease is currently the most serious health menace in that great city. In 1958 gonorrhea ranked first in the total number of cases of communicable diseases reported in both the city and the county. The next two most common contagious diseases, mumps and measles, were outnumbered by gonorrhea nearly 3 to 1. Looming significantly large in fourth place was our old enemy syphilis.

If we consider that there are at least five unreported cases of gonorrhea for each reported case, and for syphilis at least three unreported cases for each reported, we begin to have an appreciation of the disquieting magnitude presented by the venereal diseases in our contemporary society.

With any disease problem in a community it is essential also that we have information concerning the trend of the disease. That is, whether there is a decrease, an increase or plateau of the number of cases, directly or in proportion to the population. Again the City of the Queen of the Angels gives an excellent example for our consideration. During the

• The limitations and special usefulness of clinical and laboratory diagnostic techniques in the diagnosis of gonorrhea are poorly understood and utilized by the average practitioner today. Most physicians and clinics, lulled by complacency or lack of ancillary aid in the area of diagnosis, proceed by measures based in many instances upon past fallacy rather than upon the facts recently developed by research in this disease. The same circumstances apply concerning treatment and management of this disease, particularly in females.

All physicians are potentially capable of giving excellent treatment for syphilis today. The problem is to properly diagnose the disease, manage the patient and deal with the source. Looming large in the area of diagnosis is the interpretation of serologic tests for syphilis. No serologic test diagnoses syphilis, but rather gives information as to the immunologic status of the patient in relation to reagin and treponemal antibodies. None of the antibodies measured in these tests are absolutely specific for syphilis alone.

There is no substitute for a well-informed physician, who knows his patient, to relate and interpret even the best of treponemal serologic tests.

decade 1945-55, a rather rapid decline in venereal diseases was noted; and, indeed, until 1955 the city was below the national average for primary and secondary syphilis. Since 1955, such cases have increased to a point where the city's rate is almost three times the national average.

In the light of such findings, which are not confined to Los Angeles but are to be noted in many

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other sections of our country, it would seem prudent to divest ourselves of as many fallacious concepts as possible concerning these diseases, and replace the fallacies with facts that have been made available by recent research.

The limitations and special usefulness of clinical and laboratory techniques in the diagnosis of gonorrhea are neither well understood nor utilized by the average practitioner today. Many physicians and clinics, lulled by complacency or because of lack of ancillary aid in the area of diagnosis, proceed by measures poorly justifiable in the light of more recent research concerning this disease. Similar circumstances may be noted concerning treatment, management and control of this disease, particularly in females.

Let us consider the diagnosis of gonorrhea in the female, as this is a major factor in both the clinical and control problem today. I assume that it is agreed we cannot diagnose by clinical means alone the bulk of gonorrhea appearing in women. May we assume, then, that the best procedure for the diagnosis of gonorrhea in women is by smears and cultures taken from appropriate sites correlated with clinical data? If we do assume this, it is a fallacy. Studies by the Public Health Service utilizing the very best clinical and laboratory groups working together with the patient, indicate that clinical information plus smears and cultures at best could diagnose only 50 to 75 per cent of the cases of gonorrhea in females.^{8,30} You might ask, "How does one know if the other 25 to 50 per cent had gonorrhea?" The facts were discovered by interviewing and investigation of contacts which demonstrated that these females were capable of passing gonorrhea to susceptible males, even though diagnostic procedures had failed in detecting the presence of the gonococcus in these women. What is the most sensitive diagnostic tool available for the diagnosis of gonorrhea in the female? The uncomfortable answer is, the anterior urethra of a susceptible male. Such information should clearly point out to us the limitations in our best current techniques for diagnosis and place in proper perspective the importance of the epidemiologic diagnosis of this disease. Certainly we will never control this disease when in one of every two to four women who have gonorrhea the disease cannot be detected by our current laboratory procedures and the women are available in the community for its transmission.

There is a rather commonly held fallacy that the organisms causing gonorrhea and syphilis are similarly highly susceptible to the action of penicillin. While this concept is quite true concerning *Treponema pallidum* it is not, and never has been, true for *Neisseria gonorrhoeae*. It has always taken more penicillin per organism to achieve a minimal inhibi-

tory concentration (MIC) for the gonococcus than for the treponeme. Furthermore, the gonococcus has been observed to have a wide range of susceptibility to the action of penicillin, depending upon the strain of the organism tested. Indeed, natural isolates of the gonococcus over the past decade have indicated a definite and continuing proportional increase in resistance to penicillin.²⁶ In this country with the various techniques employed in laboratories, strains of the gonococcus for which the MIC of penicillin is as high as 0.333 units per milliliter have been observed; and in the past few years particularly, more and more natural strains for which the MIC is above 0.1 and 0.2 units per milliliter have been seen. These concentrations exceed levels obtainable by usual doses of the type of penicillin given in the recent past in clinics throughout this country.⁵ In such circumstances we would, of course, expect to see failures of treatment on the basis of dose of drug alone, and indeed, this is exactly what has been observed in a number of clinics* where studies have been carried out to determine this and other factors in the treatment of gonorrhea. While a schedule of dosage that will maintain the blood content at an effective level over a long period does not have to be quite so meticulously worked out for successful treatment of gonorrhea as it does for syphilis, still it is an important factor in approaching the logical and effective use of penicillin. We have observed with the methods used in our laboratory that the cidal effect of penicillin on the usual strain of the gonococcus becomes observable between the fourth and fifth hour of contact of the organism with the drug. From a practical standpoint, killing is usually complete by the twelfth hour. We have noted, from time to time on a few strains tested on semi-solid media, that viable organisms can be recovered through 24 hours of contact with penicillin; but no strain has ever survived under these circumstances to 48 hours of exposure.²⁷

With the above factors at hand and subsequent to the studies in our laboratory on bacteriostatic and bacteriocidal action of penicillin on the gonococcus, it was obvious that neither the long endurance of some strains after contact with penicillin nor the relatively high MIC required to kill certain strains of the gonococcus could account entirely for the failure of penicillin to cure some infections, particularly in the female. We decided to investigate whether any cellular components could protect at least some of the gonococci from penicillin. Although it is conceivable that extracellular gonococci in a protected position within aggrega-

*References 11, 12, 19, 20, 21.

tions of host cells in a poorly draining or non-draining focus of infection would not be reached or affected by penicillin, it was decided to approach the problem first from the standpoint of whether the gonococcus could survive in an intracellular circumstance and avoid the action of extracellular penicillin. Using tissue culture techniques, it was observed that both HeLa cells and rabbit fibroblasts were capable of engulfing a certain proportion of the gonococci to which they were exposed. Further, it was demonstrated that penicillin, when applied to the medium, would kill extracellular gonococci but would not affect intracellular organisms. The presence of penicillin up to as long as 96 hours had no effect against the intracellular organisms, while at the appropriate MIC most extracellular daughter cells were killed within five to twelve hours. Inactivation of penicillin by penicillinase and changing of either the osmotic relationships of the medium or disruption of the tissue cells with engulfed organisms allowed for the recovery of the gonococci in a viable form on culture media up to as long as 240 hours thereafter. It was noted that the MIC necessary to kill these recovered gonococci was the same as that which killed extracellular organisms. We have extended this work to include not only penicillin but a wide variety of antibiotic and chemotherapeutic agents and have found that the gonococcus is protected against all agents tested to date²⁸ in the circumstances reported above.

Taking into consideration all the factors previously discussed, in 1956-57 we proposed a working hypothesis for the treatment and management of gonorrhea based on these findings.⁵ This proposal may be summarized briefly as follows:

1. Sufficient penicillin must be given the patient so that the units per milliliter of serum will exceed the highest known MIC for any strain of the gonococcus in this country. Roughly, this would mean a serum level of 0.35 units per milliliter.

2. Such a level must be maintained in contact with the gonococcus for a period of at least 24 hours and preferably 48 hours. That much contact would allow for a complete bacteriocidal effect against any known gonococcus based upon our laboratory *in vitro* work. It should be pointed out that *in vivo* this time period may be less in view of host factors, and that only very rare strains of the gonococcus, upon occasion *in vitro*, have demonstrated a capacity to survive exposure of 24 hours.

3. Provisions should be made in the treatment for very long-acting penicillin. This is necessary for two reasons. The first is that although 48 hours of exposure will kill all gonococci *in vitro*; nonetheless, we do not know when such exposure is liable to occur *in vivo*, particularly in the female. In other

words, we could not treat a patient, obtain a 48-hour continuously adequate penicillin blood level and assume that the gonococcus in various foci in the female genitourinary tract had had an equal 48 hours of exposure. The second point is even more important. It relates to the fact that even if the patient is cured of gonorrhea, he or she may become reinfected in short order. It is possible with benzathine penicillin to obtain blood levels beyond 45 days in humans. While we do not know the exact minimum concentration of continuous penicillin that will protect a person exposed to gonorrhea, nonetheless, it is known empirically that giving long-acting penicillin does reduce the repeater load in venereal disease clinics.^{9,10} This is the "antibiotic quarantine" spoken of by Dr. Ira Schamberg of the Venereal Disease Clinics in Philadelphia.^{20,21}

There is yet another factor in relation to the use of a long-acting penicillin. If it is true, particularly in the female, that certain tissue cells of the genitourinary tract are capable of taking viable gonococci within them and protecting such organisms from the effect of penicillin as we have demonstrated in tissue cultures, then when these cells are shed viable gonococci are released within the host. This would make auto-infection of the host a possibility without an infectious sexual contact. As such viable gonococci could be released some weeks after the initiation of therapy, it is obvious that the presence of long-acting penicillin in such a patient would be a deterrent to auto-infection. I must stress that this is a hypothesis and has not yet been confirmed by clinical research. Nonetheless, until we know more about the disease in this regard, it behooves us to take such action as would prevent the likelihood of its occurrence.

Hence, the previous concept that a "dosage of 160,000 units of penicillin over a 45-hour period . . . represented the use of an excessive amount of drug. . ."²⁹ must be considered fallacious in the light of today's knowledge, and we must raise our sights in the treatment of gonorrhea to higher levels of penicillin extending over a much longer time than we have used in the past. I believe it is obvious to all of us that the control of gonorrhea can be enhanced by the application of this knowledge in treatment. The epidemiologist can feel more secure that the patient will not be reinfected before the source of infection and other cases from the same source can be traced. Also he will have a longer effective period during which investigations may be conducted to bring contacts to epidemiologic or specific treatment. Of greater importance, the tendency of the gonococcus to develop further resistance to penicillin can so be blocked.

Up to now it would appear that we have neglected the male. I can assure you this is not my intention. However, the problem of uncomplicated gonorrhea in the male is a considerably less difficult one in relation to diagnosis and treatment. In these days of the rediscovery of non-gonorrheal urethritis (NGU), it would be wise to routinely take at least smears on male patients to aid in distinguishing between gonorrhea and NGU. We must remember, too, that when occasional treatment failures of gonorrhea occur and NGU has been excluded, cultures should be obtained and the susceptibility of the gonococcus to penicillin determined as a guide in therapy. It is perhaps worth while, too, to remind the epidemiologists that British, Danish and American investigators,* have reported what appear to be cases of asymptomatic gonorrhea in males.

If I may direct your attention to more basic research areas related to gonorrhea, I believe that I can demonstrate to you that fallacy is as rife amongst the long-hairs as it is among crew-cuts. For many years it has been rather widely accepted that the endotoxin of *N. gonorrhoeae*, which is the factor causing the basic cellular pathologic changes of the disease, was a protein. This may be a very important fallacy. Reviewing the work of the past, we have obtained a protein material from the gonococcus which is consistent with all past criteria referable to the endotoxin of the gonococcus.²² In an attempt to increase the toxicity and lethality of this endotoxin to animals and to purify the endotoxin for chemical characterization, we found that most of the toxicity could be related to nucleoprotein.²⁴ By applying techniques unavailable to workers of the past we were pleasantly surprised when we separated a previously unknown lipopolysaccharide phosphate (LPSP) from the protein endotoxin. The bulk of the toxicity was to be found in the LPSP rather than in the nucleoprotein.²⁵ If these new studies are confirmed, it would appear that the endotoxin of the gonococcus is not a protein, but rather is a lipopolysaccharide. This observation would be of extreme importance in relation to development of specific antigens for serologic testing for gonorrhea, as well as the possible development of a relatively specific skin test for the disease. Further, as saccharide antigens are usually more closely related to protective immunity than are protein antigens, such studies may lead us to a means of developing hyper-immunity in the host sufficient to protect against naturally acquired gonorrhea. Using our original protein endotoxin, we were able to demonstrate that cortisone significantly protected mice from death by this material. Properdin in rather large doses had a similar effect, while reser-

pine enhanced the toxicity of the endotoxin.²³ Such information may be of considerable value in further clinical research on treatment.

It appears we are once again upon the threshold of a renaissance in research and new knowledge concerning the gonococcus and gonorrhea. The exciting research concerning the adaptation of the fluorescent antibody technique to the gonococcus, which could allow for the specific detection of gonococci in a stained smear within 30 minutes or the utilization of this technique for a serologic test for the disease, is only one of many intriguing areas of research; and the research, if successful, may be reflected in our clinical and public health practice in the not too distant future. It is anticipated, hopefully, that such changes will bring us the blessings and benefits of more efficient and effective means of clinical management and control of gonorrhea in our communities.

CHANGING CONCEPTS IN SYPHILOLOGY

Now let us consider some of the changing concepts concerning syphilis. The most important recent changes in our thinking about this disease stem from penicillin treatment, and new knowledges of the host immune response to this disease reflected in newer serodiagnostic tests.⁶ Before the penicillin era, it used to be said that almost any third year medical student could diagnose syphilis with a slight nudge from the laboratory, but that an expert was required to treat the disease. This old bromide, true in its day, has now become a fallacy and, indeed, the reverse of this circumstance is now the problem. While I do not recommend third year medical students be placed in charge of this disease, I believe that treatment has been so simplified that any competent physician can do an excellent job in the therapy of syphilis. Diagnosis, on the other hand, has become more difficult in view of the rapid decline of this disease, the availability of a multitude of new serodiagnostic procedures (see list in box on the following page) and, in some people's thinking at least, a presumed increase in the incidence of diseases associated with biologic false-positive reactions. The list of new test procedures shown here represents the fruit of research of only the last decade. And there are more to come. We cannot dwell upon all these procedures, but there are several worthy of further consideration here.

There is an opinion abroad that, although reagin or Wassermann tests are not specific for syphilis, the newer treponemal tests, such as the *Treponema Pallidum* Immobilization (TPI) test,¹⁶ are specific. This is an unfortunate fallacy in that it attributes infallibility to the results of a laboratory procedure. No serologic test for syphilis diagnoses syphilis;

*References 1, 4, 13, 14, 17.

Treponemal Tests for Syphilis Used in Last Decade

1949	TPI	<i>Treponema pallidum</i> Immobilization tests
1953-55	TPA	<i>Treponema pallidum</i> Agglutination tests
1953	TPIA	<i>Treponema pallidum</i> Immune-Adherence tests
1955	TPCF	<i>Treponema pallidum</i> Complement Fixation test
1956	TPMB	<i>Treponema pallidum</i> Methylene Blue tests
1956	WTPCF	Whole-body <i>Treponema pallidum</i> complement Fixation test
1957	RPCF	Reiter Protein Complement Fixation tests
1957	TWR	Treponemal Wassermann Reaction test
1957	FTA	Fluorescent Treponemal Antibody test
1958	TPCP	<i>Treponema pallidum</i> Cryolysis Protein tests

rather, its results inform us of the immunologic status of the patient in relation to reagin and treponemal antibodies. None of these antibodies measured are absolutely specific for syphilis alone. In fact, practically all the related treponemal diseases in man react to these test procedures; and, in addition, certain antigenic components isolated from non-pathogenic treponemes will react with syphilitic antibodies.³ Luckily for us in this country, at least, there are few treponematoses other than syphilis, and hence we can place a practical reliance upon the results of some of the treponemal tests as being related to syphilis in our patients. In addition, it should be strongly noted that reagin, TPI, *Treponema Pallidum* Complement Fixation (TPCF),¹⁸ and Reiter Protein Complement Fixation (RPCF) test² antibodies are all different immunologic host responses. How long it takes them to appear after infection, and their course during the natural history of syphilis vary. It is essential that the physician be aware of this knowledge to adequately interpret the results of tests on blood from a patient.⁷ To add to the confusion, we now know that treatment, adequate and probably inadequate, changes the pattern of at least some of these antibodies. Current research only now is beginning to clarify the meaning of these changes in the face of anti-treponemal treatment. Without a grasp of the significance of these facts, the physician simply cannot adequately interpret what would appear to him to be extremely contradictory and confusing findings; nor can he use the proper test at the proper time, for such knowledge is mandatory to exploit the special limitations and usefulnesses of these test procedures.

To be a bit more practical: While it is true that both false-positive and false-negative test results

have been observed for all the treponemal tests, nonetheless, they occur in so small a number of cases when compared with reagin results that one of the special usefulnesses of the treponemal tests is in distinguishing the chronic biologic false-positive reactor from the patient with syphilis. The RPCF test is the least expensive, most readily available procedure, followed by the TPCF 50 test. As commercial antigen is available for both procedures, the tests may be done in any local, competent laboratory. The TPI test remains available to all physicians and clinics through the resources of the State Health Department and the U. S. Public Health Service.

In our harried profession, in which time is so precious, we always hope that a new development will make it easier and less time-consuming to practice good medicine, whether it is on the individual patient or on the body politic. While the new procedures in the serodiagnosis of syphilis permit us to do just that, it is so only when the physician divests himself of the fallacy that the laboratory can substitute for his brains and knowledge.

For the full exploitation of the research advances in this field, there is simply no substitute for a physician well informed about syphilis as a disease, well informed about his patient and well informed about the implication of the test results he receives from the laboratory.

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California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposia in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 31, 1959.

Surgical Treatment of Cervical Osteoarthritis

ROBERT W. RAND, M.D., Ph.D., and PAUL H. CRANDALL, M.D., Los Angeles

CERVICAL OSTEOARTHRITIS has long resisted medical and surgical correction. However, in the past two years, certain clinical and pathological types have been successfully attacked surgically—specifically, cervical spondylosis. This entity, of which there are several varieties, may be defined as a chronic degenerative intervertebral disc protrusion which has caused secondary hypertrophic osteophyte formation.²

When these hypertrophic osteophytes develop along the posterior margins of the cervical vertebrae, transverse bars of hard bone are produced. These ridges or bars in turn press upon the anterior spinal artery and the spinal cord parenchyma. This compression process eventually causes local neurone degeneration in the anterior horn and involvement of the long ascending and descending motor and sensory tracts. For example, the patient may show atrophy of the intrinsic hand muscles and spastic paraplegia—a syndrome-complex which frequently has been mistakenly ascribed to incurable progressive spinal muscle atrophy or amyotrophic lateral sclerosis.

On the other hand the osteophytic processes and disc herniation may be posterolateral and greatly narrow the intervertebral foramina through which the cervical nerve roots emerge. The osteophyte formation in this case involves the Luschka joints. The resultant nerve root compression is manifested primarily as either excruciating radicular arm pain or numbness or weakness, or a combination of these symptoms. It is generally this sharp lancinating root pain that causes the patient to see a physician.

Perhaps an even more common group of symptoms brought about by this type of cervical osteoarthritis is the so-called chronic neck and shoulder pain. This pain is often associated with limitation of movement and stiffness of the neck. The shoulder pain is generally referred to the medial border of the scapula. For example, if the interspace between the fifth and sixth cervical vertebrae is diseased and the disc protrudes, the pain is centered along the superior edge of the scapula opposite its spine. Pain

• The early results of anterior cervical intervertebral disc excision and fusion (Cloward operation) together with removal of associated arthritic bone spurs pressing on nerves and spinal cord give promise of relief of pain and muscle weakness in patients who have this form of cervical osteoarthritis.

Eighty-five per cent of a group of patients with neurologic pain caused by compression of this kind were relieved by this operation. The approach to the cervical vertebrae is made by an incision into the front of the neck and the diseased disc and arthritis spurs are removed by drilling a half-inch hole into the edges of the vertebrae. The remaining fragments of disc are everted away. The hole is plugged with a bone dowel. The patients had less pain and a more rapid convalescence than with the usual posterior laminectomy for chronic disc disease.

along the mid portion and lower angle of the scapula is due to herniations between the sixth and seventh cervical vertebrae and between the seventh cervical and the first thoracic, respectively. The pain is not of nerve root origin but seems to be primarily discogenic.

It has been shown that irritation of the annulus fibrosus of the spaces mentioned above will refer pain to the scapula as outlined. It has been postulated that the neural pathway by which the pain travels is as follows: The impulses arising in the plexus of nerve ending of the annulus pass by way of Luschka's nerve to the posterior root and then by way of synapse to the anterior horn cell and retrograde to the appropriate muscles about the scapula. We believe, however, that this referred scapular pain, although arising from the diseased annulus fibrosus, is a referred periosteal rather than muscle pain.

Cervical spondylosis may be generalized, sometimes involving the entire cervical region, but it is usually more localized between the fifth and sixth and sixth and seventh cervical vertebrae. Cervical spondylosis is to be distinguished from acute intervertebral disc degeneration and rupture, which we have found to be considerably less common than the chronic form. One would naturally suspect that cervical spondylosis would be most frequently found in the middle and older age groups. This is quite true; however, many persons, particularly men in their twenties and thirties, may show chronic ad-

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vanced but usually localized disc disease particularly of the lower cervical vertebral segments. The cause of this primary disc degeneration is not known. The trauma of "wear and tear" has been implicated as the most prominent cause of cervical spondylosis. Certain obstacles to acceptance of this supposition immediately arise. For example, the majority of neck movements take place in the upper cervical vertebrae, which would make them the most reasonable site of "wear and tear." Yet, the chronic degenerative process is usually at the lower cervical discs. Another question arises: Why should a man of 65 or more have practically no degenerative disc disease while another 30 years younger has severe cervical spondylosis? With regard to age, this problem seems to parallel that of atherosclerosis. Certainly the etiological factors of cervical spondylosis remain a challenging puzzle. It has been found that pathologically the degenerative disc and osteophyte formations are nearly the same in the man of 30 as in the man of 60.

What can be done to improve this cervical spondylosis and relieve the patient of the root and spinal cord compression syndromes? It has been found by cinefluoroscopic studies that excessive anteroposterior movement of the vertebra occurs at the site of a chronically degenerated protruded cervical disc. This excessive movement seems to set up a cycle of further disc degeneration and osteophyte formation. Thus, putting these diseased regions at rest would seem to be indicated. Applying this principle of treatment has taken the form of external splinting or fixation either with a cast or a cervical brace or collar. By using these appliances coupled with periodic cervical traction, great symptomatic relief is often afforded and the rapidity of pathological change reduced.

In June, 1958, Smith and Robinson³ reported their experiences with 14 cases of anterior removal of diseased cervical discs and interbody fusion. The rationale for the operation is, of course, to stabilize the site of the protruded disc and osteophyte formation permanently by bony fusion. Originally these investigators had hoped that following partial disc removal the vertebral bodies could be wedged apart and that this would increase the size of the intervertebral foramina. Although this was not possible, results were excellent in nine patients and good or fair in four.

Cloward¹ in November, 1958, published his results with anterior disc removal and interbody dowel fusion. He applied the lumbar interbody dowel fusion technique of Wiltberger to cervical spondylosis and overcame certain faults inherent in the Smith-Robinson cervical interbody fusion. The operation is done in the following way: The patient is placed in the supine position on the operating table

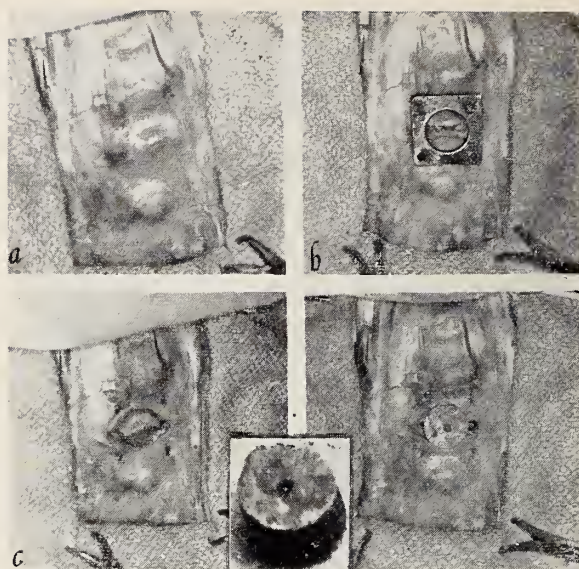


Figure 1(a).—Anatomical demonstration of multiple cervical disc protrusions; (b) drill guard in place and disc partially removed; (c) diseased cervical disc totally removed along with posterior osteophytes and interforaminal osteophytes; posterior longitudinal ligaments seen at depth of drill holes; (d) bone dowel in place. Inset Bone dowel five-eighths inch in diameter and one-half inch thick, ready for placement.

and a 5 cm. incision is made along the natural skin lines between the sternocleidomastoid muscle at the midline to the level of the thyrocricoid cartilage. Following the natural fascial planes and retracting the great vessels laterally and the esophagus and trachea medially it is possible to expose the interspaces between the fourth and fifth, fifth and sixth and sixth and seventh cervical vertebrae without difficulty and without undue pressure on the retracted viscera. The diseased disc material is removed in part by disc rongeurs; and then, by drilling a half-inch hole centered between two cervical vertebrae and carefully curetting away the osteophytes along the posterior margins of the vertebrae together with those arising from the Luschka joints, it is possible to remove the compressive forces on the appropriate nerve roots and spinal cord at that level (Figure 1). The bone dowel used to accomplish the fusion is taken from the crest of the ilium with a five-eighths inch trephine. This dowel generally measures three-eighths to a half inch in thickness and has dense cortical bone at either end. As the average sagittal diameter of the vertebra is from five-eighths to seven-eighths inch thick, it is possible to counter-sink the dowel about one-eighth inch and still in no way endanger the spinal cord by compression. Mechanically, this bone dowel causes immediate fixation, which prevents further osteophyte formations at that level. A solid bony fusion occurs in about two months.

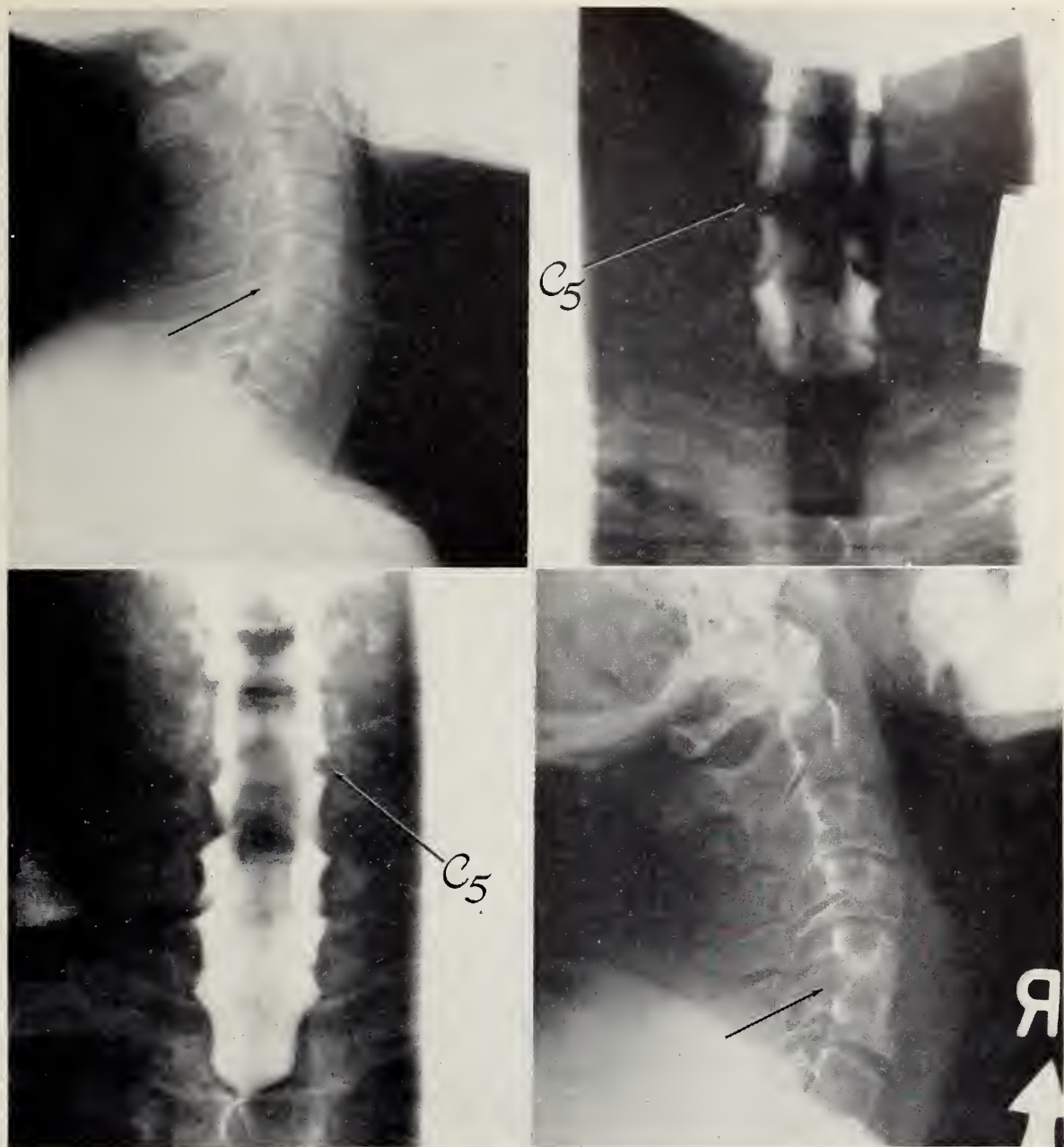


Figure 2.—*Upper left*, severe posterior osteophyte formation at level of interspace between the fifth and sixth cervical vertebrae (arrow). *Upper right*, transverse defect in myelogram at the 5-6 interspace (arrow). *Lower left*, showing transverse myelographic defect corrected by anterior disc removal and interbody dowel fusion (arrow). *Lower right*, solid bony fusion three months after operation. Note absence of previous posterior osteophytes (arrow).

The usual formal posterior cervical approach with laminectomy cannot accomplish these aims—that is, total removal of a diseased disc, the associated interforaminal osteophytes and the transverse bars of bone and protruded disc. Thus, although laminectomy and dentate ligament section gives many patients some immediate relief, it is often not a lasting effect. This is primarily because the main etiologic factors causing the compression have not been resected.

In the group of 47 cases reported by Cloward, the results were gratifying. Forty-two patients had complete relief of the neck, shoulder and arm pains, and five had partial relief. The patients made a more rapid recovery from the operation than do patients after cervical laminectomy.

Our experience with the operation was not as good as Cloward's. Fourteen patients were treated, six of whom had primarily a root compression syndrome, two root and cord compression, and six cord

compression. The six with more local disease and symptoms of root compression only had immediate and complete relief. One patient, a 43-year-old man, had severe right arm pain for three months and on x-ray examination a severe osteophyte formation at between the fifth and sixth cervical vertebrae caused a transverse defect in the myelogram. This defect was corrected by the anterior disc removal and interbody fusion, and the patient had solid bony fusion three months after operation, with continued relief of symptoms. (See Figure 2.) One patient had some return of arm pain; in his case the foramen was only partially widened.

In patients with root pain and cord compression with chronic myelopathy there was good relief of pain but only mild improvement of myelopathic symptoms—primarily flexor spasms. In the less chronic myelopathic problems, one of the patients with a Brown-Séquard syndrome had almost complete relief in 48 to 72 hours. The reason for the poor response in chronic myelopathic disease was irreversible intrinsic ischemic changes in the cord.

Naturally, with any new operative technique some problems are to be expected. For example, pseudoarthrosis has occurred in 2 per cent of the patients in Cloward's series, which now numbers 84 cases. We have not seen this as yet and hope that by using the patient's own bone this can be avoided. Unless the dowel is countersunk slightly it may come out,

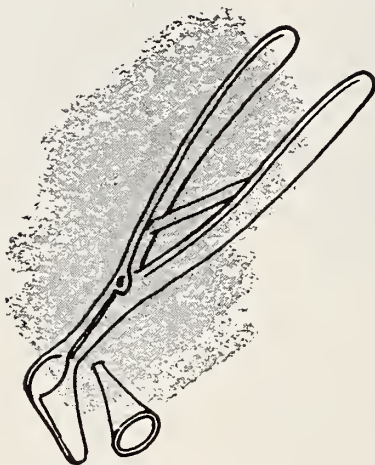
necessitating replacement. The chances of damaging the nerve roots and spinal cord are, of course, of prime concern. We have found that by carefully using the specialized instruments designed for the operation there is less chance of such damage than in the usual formal cervical laminectomy.

We would recommend that all patients with severe neck, shoulder and arm pain syndrome and those with signs of spinal cord disease be carefully screened for the presence of the cervical spondylosis form of osteoarthritis. If they are not responding to the usual conservative measures, special diagnostic roentgenographic studies should be done, specifically myelography and discography to identify the offending disc or discs. Once identified, the diseased protruded discs and their associated osteophytes can be removed and the interspace fused by this new surgical technique.

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Epidemiology in the Social Sciences

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THE OBJECTIVES of this paper are: first, to explore the application of epidemiological principles to the broad and often poorly defined field of social science; second, to report an experiment carried on in San Mateo County during the past four years in this field; and, third, to cite several examples from administrative experience illustrating the importance of a broader knowledge on the part of physicians, and particularly health officers, of the social sciences and the possible consequences of our failure as physicians to be cognizant of sociological phenomena in our communities.

Most physicians are familiar with the concepts of epidemiology and are comfortable in the use of the word, although few could perhaps claim the title *epidemiologist* in the same class with those who have made great contributions to our medical knowledge, such as William Budd, Pannum, John Snow, Chapin, Lumsden, Frost, Rosenau, Ricketts, Godfrey and John Gordon. Many persons think of epidemiology as having to do almost exclusively with infectious disease. Godfrey pointed out in the early twenties that epidemiology and the epidemiological method had application to many other morbid conditions, such as goiter, heart disease, lead poisoning, diabetes and deficiency diseases. When epidemiologists emancipated this specialty from its restriction to communicable diseases and began to explore other mass diseases, as reflected in degenerative and neoplastic processes and in physical injury, the application of epidemiological procedures to other fields was well established. In 1939, Elkind³ proposed that epidemiology could be applied to mental disease. In 1949, John Gordon⁶ published an epidemiological paper on accidents in which he said that "the part exerted by the socio-economic environment is probably the most neglected of any epidemiological influence." Gordon and Lindemann⁷ published an extensive analysis of "The Biological and Social Sciences in an Epidemiology of Mental Disorders" in which they stated. "Epidemiologists through association with social scientists, psychologists, anthropologists and psychiatrists are gaining a better understanding of group characteristics of mental diseases and also an insight into potential

- The techniques and principles of epidemiology, so successfully utilized in the study and control of communicable diseases, should be applied to other mass phenomena in the community.

The local health officer should apply them in his "diagnosis" of the sicknesses of his organized community.

Epidemiological methods have been used to study mental diseases as well as chronic diseases, and an experiment in using epidemiological methods on the county level to study psychosocial disorders has been carried out.

The impact of psychosocial episodes on somatic diseases is now generally accepted and well documented. Individual practitioners of medicine are becoming more interested in the significance of social tensions on the health of their patients.

Public health physicians, specialists in preventive medicine, are the best equipped by training and experience to take the leadership in the application of epidemiological methods to sociomedical problems and are in a unique position to assist their colleagues in the private practice of medicine in providing modern helpful and meaningful health protection to their patients.

Organized medicine might well become more cognizant of the sociological changes taking place in the nation as they relate to health and assume the responsibility for aggressive leadership in the anticipation of and the solution of these problems.

application of the social sciences to other kinds of mass disease."

On the other hand, the term *social sciences* does not conjure a clear concept in the minds of most of us. It means something rather vague and nebulous, not particularly related to medicine and, perhaps, even a little dangerous and undesirable. In fact, there is reasonable doubt in the minds of many physicians as to what is scientific about the social sciences. However, social science is not new, as some of the basic concepts are found in Plato's *Republic and Laws* and in Aristotle's *Politics*. Social science is defined as "(1) that science that deals with human society or its characteristic elements, as family, state or race and with the relations and institutions involved in man's existence and well-being as a member of an organized community; sometimes synonymous with politics or more often with sociology; (2) one of the group of sciences dealing with special phases of human behavior, as economics, sociology, politics, ethics, etc."

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The social sciences should be of particular interest to specialists in preventive medicine, as health officers are considered the physician to the "organized community" in contrast to the private practitioner who serves as the physician to the individual. And yet, it sometimes seems that we health officers are so preoccupied with the problems of budget, administration, personnel, public relations, professional relations, annual reports, new programs, committee meetings and so on, that we fail to really take a good community history, do a competent examination or even attempt to diagnose, much less treat, the ills that beset the particular "organized communities" for which we are responsible. Most of us over the last decade have finally, and often grudgingly, admitted that as health officers we do have a responsibility in the field of chronic diseases; that modern public health is more than environmental sanitation, communicable disease control, vital statistics, health education and maternal and child health services; and that some of our communities are pretty "sick" as communities, in spite of a creditable job done in the traditional public health fields with the collaboration of our fellow private practitioners.

Gordon and Lindemann analyzed the difficulties of an epidemiological study of mental disease, but competent studies have shown that emotional and mental disorders are as common as somatic disease, if not more common. Studies in Baltimore¹¹ showed that "approximately 10 per cent of an urban population have one or more of the relatively well defined mental disorders." In a 1957 survey in Yorkville, New York,¹² 30 per cent of the population included were found to have handicapping and serious mental illness; and a study by Leighton¹⁰ revealed a similar figure in Nova Scotia, 32 per cent of the population having severe mental illness of a handicapping degree. If these proportions pertain to our California communities and if we are truly concerned with the prevention and control of all disease, then obviously health officers must turn their attention to this field.

The experiment I would like to report, as an example of the application of epidemiological principles to a social problem, was reported in detail last April in *Mental Hygiene*.¹ This experiment was not designed by a health officer or an epidemiologist, although its authors had been exposed to some very sound epidemiology by one of their associates, the late Dr. Carl Buck. The designers of the experiment were trained in the field of social work and had had many years of experience in the field of community organization and administration. From 1948 to 1952, these investigators carried on an intensive study of the social and health agencies

in Greater St. Paul,² both official and voluntary, and came to the conclusion that by far the largest portion of the service and money provided by the major administrative units was expended on 6 per cent of the families in the community. The services relating to the problems isolated were concentrated on this relatively small proportion of the population that was made up of seriously disorganized multi-problem families. The investigators isolated three general areas of concern: (1) chronic dependency; (2) chronic disability; and (3) disordered behavior.

Their next step was to select three areas (Winona, Minnesota,⁵ Hagerstown, Maryland,⁴ and San Mateo County²) in which to study each of these factors more intensively. The study in San Mateo County was subsidized by the Rosenberg Foundation of San Francisco, and the overall study was assisted by the Grant Foundation of New York. The investigation of disordered behavior was started in San Mateo County in January of 1954. The first step was to attempt to define what was included in "disordered behavior." The definition selected was "behavior which is either legally prohibited or generally disvalued by society." The next epidemiological step was to define the sources of reporting already existing which would reflect symptoms of disordered behavior. Three general categories were established:

1. *Adult disorders*, as indicated by major crimes, minor crimes and misdemeanors, voluntary admissions and commitments to mental institutions;

2. *Marital disorders or dysfunctioning*, as indicated by divorce, official separation or desertion, separation of children from their own home to agency care; and

3. *Child disorders*, as indicated by officially reported delinquency and truancy, noneconomic school dropouts, commitments to mental institutions.

The third step was to attempt to count these incidents which seemed to be the signs and symptoms of disordered behavior in the community, and which came to official attention. Hence, in January of 1954, all agencies involved in this field were asked to report to a central bureau all cases in these categories that became known to them during this month. These reports, when summarized, represented the "prevalence" of disordered behavior as defined for the study in San Mateo County. During the January 1954 "prevalence" study, 72 local and state agencies cooperated in reporting. Detailed analysis indicated that data from ten agencies were sufficient to identify and isolate the problems of disordered behavior in the county and to secure the epidemiological data necessary for study, and these ten were asked to continue reporting for the three years of the study.

Using the definition cited above, we found that in January of 1954 27 families of every 1,000 families in the county were known to agencies for one or more episodes of disordered behavior. We also found that 5.3 per cent of the families were multiproblem families which were absorbing nearly 70 per cent of the total community resources for welfare, delinquency and voluntary social services. In January of 1954 there were 13,074 Family Unit Report Schedules filed with the study staff by the 72 agencies (local and state) cooperating in the study. When these were edited and consolidated to eliminate duplicate reporting, it was found that there were 10,078 schedules. Two hundred twenty-seven of the total were for hospital care only, leaving 9,851 families made up of 24,159 individuals to be included in the study.

Of these 9,851 families, 5,359 (54.4 per cent) were multiproblem families—that is, showing some combination of dependency, ill health or disordered behavior—and 4,492 (45.6 per cent) were single problem families. By far the greatest number (5,456) were reported as disordered behavior cases, 3,073 of them (56.3 per cent) in single problem families, *i.e.*, only disordered behavior, and 2,383 (43.7 per cent) in multiproblem families.

This summary of some of the gross findings gives a general idea of the type of data gathered by use of epidemiological methods. Continuation of the reporting to the central roster soon revealed that, while 56.3 per cent of the reported disordered behavior families were neither dependent nor disabled, there developed a pattern of recidivism in those families known to the roster. That is, not only did the single individual tend to repeat asocial acts, but the various members of the family tended to get into many kinds of difficulty with official agencies. The developments of this concept of the study are too detailed to be reported here and are all discussed in the publication already referred to.²

At this point, one might well be tempted to use the flippant teen-age comment "So what?" for it might be contended that this study designed and carried out by social workers on a social problem has little relation to public health. However, if our interest as physicians and health officers really extends beyond the prevention and control of the zymotic diseases, then this study has significance as shown by a paper presented to the American College of Physicians last spring by Hinkle and Wolff.⁹ These investigators followed the records of 3,535 patients over long periods. They found first that "during two decades of young adult life, one fourth of the individuals experienced over one half of all of the episodes of illness that had occurred among

all of the people in the study." And they said: "The distributions were such that they can be explained only by assuming that some factor in addition to chance operates to determine them. In other words, the members of each group behaved as if there were differences in their susceptibility to illness. . . . The members displayed a difference in their susceptibility to illness in general, not simply the result of differences in susceptibility to one or another specific syndrome."

The second important observation was that the illness histories seemed to show "clusters" of illnesses in certain periods of the patient's life. Meticulous study revealed that the great "majority of clusters of illness episodes that occurred in the lives of these patients occurred at times when they perceived their life situations to be unsatisfying, threatening, overdemanding, and productive of conflict, and they could make no satisfactory adaptation to these situations." The following is the closing paragraph of their paper:

"The evidence indicates that the reaction of a man to his life situation has an influence upon all forms of illness and that it plays a role of significance in at least one third of all episodes of disease, regardless of their nature or location, the cause or their severity. Ultimately medicine will have to take account of this in the treatment of illness. It is very probable that an increasing proportion of the therapeutic effort will have to be directed at the patient's relation to his environment if we wish to make any significant improvement in his health. In view of the complexities involved in dealing with human relationships, human attitudes and human behavior and the ineffectiveness of our present methods of dealing with these, it is also very probable that these efforts will be difficult, time consuming and not, at first, highly rewarding. The problem stands before us as a stern challenge to medicine and not as an easy opportunity."

If we consider these findings in the light of the data of the California Health Survey,⁸ which showed that for every 1,000 California citizens in the sample year there were 2,550 episodes of acute illness causing one or more days of disability, and 1,280 episodes of chronic disease causing one or more days of disability, the importance of the psychosocial factors in disease causations places a heavy responsibility on the health officer and the private physician to take into serious consideration the impact of socio-environmental factors on health.

Two or three experiences might serve to illustrate the point. Within the last year two pediatricians of real stature have conferred with us in this general field. One of the pediatricians was involved in a survey of the health needs of children on the San Mateo Peninsula. After about an hour's discussion

of the social problems of children, involving dependent and neglected children, the functions of the receiving home, foster home placements, adoptions, services for the mentally retarded, the cerebral palsied child, crippled children's services and the like, he said, "I have been in the practice of pediatrics for 15 years in this area and never realized that all of this activity with impact on the lives of children was going on in this county."

The second pediatrician, a former member of the Council of the California Medical Association, came to us and asked if we could discuss some of the services of the county which affected children because he had been appointed to a Governor's Committee on Children and found that he was ignorant of the facilities in his own county which were being discussed at the meetings of the committee.

The one agency in our area which seems to have real appreciation of the psychosocial factors in children's development is the Children's Health Council of the Mid-Peninsula, organized by Dr. Esther Clark. Here the child is not only treated by the individual specialists—orthopedist, psychiatrist, physical therapist, speech therapist and others—but the whole family situation is studied, diagnosed and treated as well.

Another example, from the other end of the life cycle: Last spring I had the privilege of speaking to the Western Hospital Association on the Forand Bill then under consideration by the 85th Congress. In preparation for the discussion, I wrote to both the California Medical Association and the American Medical Association for data and received very prompt, gracious replies and assistance from both. By analysis of the bill, supplemented by the material from the American Medical Association, the California Medical Association, the American Hospital Association, and our local Congressman, I tried to impress on the audience the undesirable features of the bill and the impact its possible passage would have on both hospitals and the practice of medicine. However, I could not overcome the personal feeling that, had we in preventive medicine, had individual

practitioners and had organized medicine taken a more active interest in the socio-economic and psychosocial problems of the aging, there would have been perhaps little need to introduce into Congress a bill as drastic as H.R. 9467. While sociological changes are not usually cataclysmic but rather slow and gradual, and have been perhaps of more interest to historians than to practicing physicians, I think it behooves us all to constantly analyze changes that are taking place in our "organized communities" and the implications these changes hold for medicine.

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Intensive Rehabilitation

Recent Experience in a Chronic Disease Hospital

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THE CONCEPTS of patient care in acute and chronic disease hospitals have become fairly well established and fixed. Minor changes appear as knowledge, techniques and drugs improve or as disease patterns change.

The acute hospital functions as the center for diagnosis and care, covering nearly all disease entities. The average period of hospitalization is less than two weeks. If, after diagnosis and definitive care have been accomplished, the patient has not recovered sufficiently to be discharged, he is transferred to a chronic disease facility, if such exists and if a bed vacancy is available.

The chronic disease or long-term illness hospital, whichever it may be termed, is usually prepared for a minimal or slightly higher level of medical care. Facilities for diagnosis and care of patients in acute phase of disease are minimal because it is assumed that the patients entering such units have passed that stage. If complications of an acute nature develop or new problems arise, the patient is returned to the acute hospital for care. The ratio of physicians to number of patients is relatively small because activity is minimal. The rate of discharge is low and the average length of stay is several years. Hence the admission rate is low.

At first glance this arrangement between acute and chronic facilities seems logical. However, experience with such an arrangement, or even a deeper look at it, points up some serious problems.

At the chronic disease hospital, the limitations of staff and diagnostic facilities make further diagnosis improbable. This is important with regard to cases incorrectly or incompletely diagnosed during the time of stay in an acute hospital. Treatable and sometimes curable conditions are missed, resulting in unfortunate and prolonged hospital care. The lack of diagnostic and treatment opportunities makes it difficult if not impossible to develop and maintain a stimulated and competent professional

- An intensive rehabilitation program for persons with severe physical disabilities was carried on over a two-year period in a 35-bed unit at Rancho Los Amigos Hospital, a chronic disease hospital.

Eighty-five patients were released (69 adults, 16 children) from the program after an average stay of six and a half months. Seventy-one per cent of these were discharged to their homes and the remainder were transferred to convalescent wards so much improved that they required less care, even worked on the grounds.

Over half of the adult patients discharged to their homes became employed, not counting the women who resumed housework.

The average hospitalization for patients in the same hospital without this program is three and a half years. Thus, despite a much higher cost per day for the patients in the intensive rehabilitation program, the total cost is about \$7,640 less per patient discharged from the hospital.

In addition the shorter period in hospital helps meet the ever-increasing demand for chronic disease beds.

staff. These features minimize discharge possibilities.

The acute hospitals are so crowded with patients in critical condition that they can hardly handle the acute problems in their facilities, let alone give adequate attention to reconstructive problems in patients sent back to them from chronic disease hospitals, or even in patients on their own wards who need such care. Despite this situation, planning agencies are still advocating that general hospitals be the center of all active care.

The number of patients with long-term illness is increasing. This is due to improved acute care, which reduces mortality but does not always result in cure, and to increased longevity with additional time for degenerative diseases to develop. The result is an increasing demand for long-term beds, a trend that will continue so long as the prevailing attitude is that active care ceases when the facility for treatment of acute illness feels it has done all it can.

This demand can be met by building more beds, by increasing the discharge rate or by a combination of both. Building more beds is only a temporary

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solution as the number of these patients is cumulative. On the other hand, if some of the patients can be improved by more intensive care, and discharged, the present number of beds would handle more patients. In essence, the only way to meet the increasing demand without continually building more beds, is to increase the salvage or discharge rate.

The question is, can a sufficient number of these patients be salvaged by intensive rehabilitation to warrant the expense of such a program? Administrators will not seek the necessary funds for purely social benefits to the patients, but will do so if economy can be demonstrated.

It is the purpose of this paper to present the results of an intensive rehabilitation program at the Rancho Los Amigos Hospital. The results parallel those reported by Hilleboe³ at the New York State Rehabilitation Hospital. We believe these results answer the above question in the affirmative.

FACILITIES

Rancho Los Amigos Hospital is the chronic disease hospital for Los Angeles County, receiving medically indigent patients from the acute hospitals. The bed capacity is nearly 2,500, plus over 700 nursing home beds under contract. Despite this size, there are between 300 and 500 patients occupying beds in the acute hospitals who are awaiting transfer to this hospital. These patients seriously clog and hamper the activities of the acute hospitals. Half of the patients at Rancho are over 65 years of age and the average length of stay is three and a half years.

In 1952 funds, staff and facilities were provided to develop an active intensive rehabilitation program for the large number of severely paralyzed poliomyelitic respirator patients who had accumulated there over several years. The results were good,^{1,2} tempting the staff to extend the intensive methods to some of the other disabled patients with a myriad of other diseases. Consequently, in 1955 staff and facilities were provided for an intensive rehabilitation program for non-poliomyelitic patients in a 35-bed unit. This included, in addition to an increased medical and nursing staff, physical and occupational therapy, medical social service, psychological and vocational services, bracing and splinting as well as a developmental orthotic shop, surgical, x-ray and clinical laboratory services. The results were better than expected, resulting in expansion of the program.

PATIENT SELECTION

The patients admitted to the 35-bed intensive rehabilitation unit were selected by physicians of the staff. There were two sources for patients. Initially

selection was from patients already at the hospital, which limited the choice to patients who had already been there for years beyond their initial illness and long since had become accustomed and adjusted to a quiet and protected hospital environment. Their vocational opportunities had disappeared, family contacts had diminished and interest in outside life had dimmed. To some, there was no interest or desire to undergo a program of rehabilitation. They did not want their situation disturbed, unless there was something better to hope for and probability of achievement.

It was therefore important for the staff to search for those who had the physical and mental potential for successful rehabilitation, and then convince them of their potential in order to raise their desire for the program and make them willing to work hard for results.

The second source of patients was referral from surrounding acute hospitals, particularly the Los Angeles County General Hospital. Members of the staff of the county hospital who happened to know about the program would periodically refer from their wards patients who they felt were potential candidates. It soon became obvious, as others have reported,⁴ that the sooner patients could be started in the program after the acute stage of disease passed, the shorter the time required for rehabilitation and the better the results. Despite this knowledge, priority was given to patients already at the hospital, in recognition of a feeling of first responsibility to them.

PATIENT CLASSIFICATION

In order to evaluate the patients before and after treatment we used a profile classification originally designed for our postpoliomyelitis rehabilitation program. The patients were classified with this system at the time of admission to the rehabilitation program and again at the time of final disposition of the case so far as the program was concerned. The classification was based on the status of the patients in four categories:

1. Physical dependence—meaning how dependent they are upon help from others to carry out their normal daily activities. They were permitted to use any devices available to them, as we are only interested in what they can do for themselves as against how much help they need from others.
2. Respiratory—need for mechanical respiratory assistance, such as the iron lung or other respirators.
3. Vocational—defined as their ability to provide for their financial needs at whatever level they are accustomed to. This included their family needs if they had the responsibility for such.

TABLE 1.—Disease Causing Disability in 85 Patients in Intensive Rehabilitation Program

Diagnosis	Adults	Children	Total
Amputation	5	....	5
Arthritis, rheumatoid	5	1	6
Arthrogryposis .....	....	2	2
Encephalomyelitis	2	....	2
Hemiplegia	10	....	10
Muscular dystrophy .....	....	2	2
Neuromuscular diseases, miscellaneous	7	4	11
Orthopedic conditions, miscellaneous.....	6	....	6
Paraplegia	21	7	28
Quadriplegia	12	....	12
Rheumatic heart disease.....	1	....	1
Total.....	69	16	85

4. Motivational—defined as their desire to improve and their willingness or eagerness to work for such.

Each area was broken into one of three scales: I. Minimal or no disability; II. Partial disability; III. Full disability.

A patient could be a D-III (fully dependent on others for physical help), but be a V-I (financially independent) by virtue of mental skills and good motivation (M-I). On the contrary, a patient could be physically disabled in such a way that he is physically independent (D-I), yet be financially dependent (V-III) owing to poor motivation (M-III). We purposely used a very gross three-scale classification limited to four basic categories in order to avoid detailed classification of many functions. The respiratory factor is obviously more important with poliomyelitic patients, yet quadriplegics may also have such involvement.

RESULTS

From November 1955 to November 1957 there were 85 patients who completed the program—69 adults with an average age of 38 years and 16 children with an average age of seven years. The age range was from two to 71 years. The duration of illness from onset to admission to the rehabilitation program averaged five years with a spread of from three weeks to 32 years. The previous period of hospitalization ranged from three weeks to 12 years. The average length of stay in the rehabilitation program was six and a half months. The basic diseases of the patients are listed in Table 1.

The profile classifications are listed in Table 2 for adults and in Table 3 for children. The degree of disability of these patients can be readily seen by looking at the D (physical dependence) column for adults. On admission 37 per cent were completely dependent on others for physical activities. Another 42 per cent were partially dependent, making a total of 79 per cent who were dependent upon others for

TABLE 2.—Changes in Classification of 69 Adult Patients Between Time of Entering Rehabilitation Program and Discharge from It

On Admission			On Disposition		
Status	No. Patients	Per Cent	Status	No. Patients	Per Cent
D—I	14	21	D—I	48	70
D—II	30	42	D—II	17	24
D—III	25	37	D—III	4	6
R—I	68	98	R—I	69	100
R—II	1	2	R—II	0	0
R—III	0	0	R—III	0	0
V—I	2	4	V—I	10	15
V—II	23	33	V—II	41	59
V—III	44	63	V—III	18	26
M—I	1	2	M—I	17	25
M—II	15	22	M—II	31	44
M—III	53	76	M—III	21	31

Status: D—Physical dependence, R—Respirator dependence, V—Vocational dependence, M—Motivational.

Classification: I—Minimal or no disability, II—Partial disability, III—Full disability.

TABLE 3.—Changes in Classification of 16 Children Between Time of Entering Rehabilitation Program and Discharge from It

On Admission			On Disposition		
Status	No. Patients	Per Cent	Status	No. Patients	Per Cent
D—I	0	0	D—I	4	25
D—II	11	69	D—II	11	69
D—III	5	31	D—III	1	6

Status: D—Physical dependence, R—Respirator dependence,* V—Vocational dependence,† M—Motivational.†

Classification: I—Minimal or no disability, II—Partial disability, III—Full disability.

*Respiratory status was all R-I.

†Non-classifiable because of age.

help. On release from the program the figures are reversed. Now, only 30 per cent are dependent with 70 per cent completely independent. The respiratory column shows only one patient with sufficient involvement to require partial use of a respirator. The low incidence in this column is due to the fact that no poliomyelitic patients are included in this study. The profile classification in the principal areas considered in Tables 2 and 3 is presented graphically in Chart 1.

The results of rehabilitation efforts are shown in Table 4. Sixty-eight per cent of the adults released from the program were discharged to their homes, with over half going to employment, not counting the women who went back to housework. Twenty-six per cent remained at the hospital and hence were transferred to the convalescent wards. This was usually due to a social problem of some sort, such as having no home or family. The majority of those staying at the hospital were enough improved that they needed less care; in fact, they were employed on the grounds of the hospital.

The social benefits of such a program are enormous. They include reestablishment or protection of a person's dignity and self-esteem, reestablishment or preservation of his home and family, and interest and participation in an active life. The

PATIENT PROFILE CLASSIFICATION

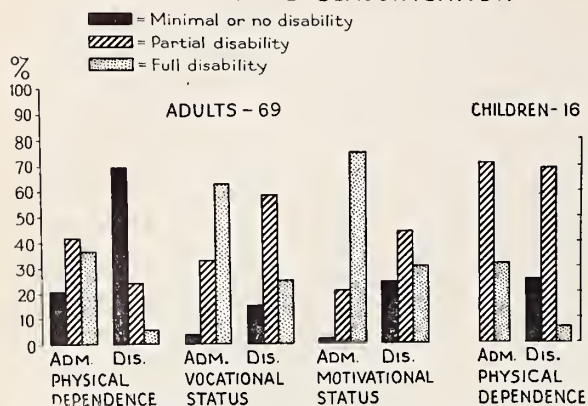


Chart 1.—The data in Tables 2 and 3 are presented. (Adm. = Status on admittance to program; Dis. = Status at time of discharge from program.) Each area exhibits an increase in "minimal or no disability" and a decrease in "full disability." The respiratory status is omitted here, as only one patient was involved.

economic benefits are equally great and from the standpoint of persons responsible for governmental budgets and taxes are of even greater importance. The benefits can be shown in three ways. First, financial status, which is shown in Table 2 in the vocational classification column for adults. Sixty-three per cent were completely dependent for financial help from others on admission, whereas on discharge the proportion had dropped to 26 per cent. This is important with regard to taxes, for the bulk of financial help to these people and their families is from public welfare funds. Another important consideration is that over 50 per cent of the patients discharged became employed and thus taxpayers again.

The second economic benefit is the savings in hospitalization costs per patient. The daily cost on the rehabilitation wards is \$19 as compared with \$9 for the convalescent wards, the difference being due to the higher staffing ratio and more intensive medical services on the active program. But the length of stay was so much shorter that the total cost was much less. Thus \$19 times the 195-day average time in hospital under the intensive rehabilitation program (six and a half months) equals \$3,700 cost for rehabilitation. The usual convalescent care at \$9 for 1,260 days (three and a half years) costs \$11,340. Thus the average savings per patient is about \$7,640. From a purely budgetary standpoint this savings does not become apparent. The hospital's budget does not drop; it rises, for it is carrying a more active program. However, this does not in any way alter the fact that for every patient discharged earlier because of an active program, thousands of dollars are saved.

The third economic benefit is in the greater usage of hospital beds. It is obvious that shortening the period of hospitalization will allow more patients

TABLE 4.—Disposition of 85 Patients from the Intensive Rehabilitation Program

	No.	Per Cent
ADULTS		
1. Discharged to home		
Employed full-time	20	
Employed part-time	5	
In school	6	
Receiving on-the-job training	2	
Discharged to housewife status	10	
Discharged to maintenance status	4	
Total	47	68
2. Transfer to convalescent wards		
Working on hospital grounds full-time	5	
Working on hospital grounds part-time	3	
In school at hospital	3	
Medically incapacitated	7	
Total	18	26
3. Discharged to other institutions	4	6
Total Adults	69	
CHILDREN		
1. Discharged to home	13	81
2. Discharged to other institutions	3	19
Total Children	16	

to occupy a bed in a year. Because the demand for chronic beds is greater than the supply, either more will have to be built or a greater turnover will have to be accomplished, or perhaps both. With construction costs averaging \$10,000 per bed, the increased cost of an active rehabilitation program over a convalescent program that requires more beds will again manifest economic sense.

The job satisfaction and professional achievements by the staff in the program have been contagious to all the personnel in the hospital. Coupling this with the social and economic benefits already outlined leads one to appreciate the feeling that an intensive rehabilitation program is an important function of a chronic disease hospital.

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Radiologic Diagnosis in Abdominal Trauma

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TWO HUNDRED AND SEVENTEEN patients with abdominal and retroperitoneal trauma, proved at operation or autopsy, have been seen in the operating rooms of the Los Angeles County Harbor General Hospital during the past 12 years. Both penetrating and nonpenetrating trauma were included, surgical trauma excluded.

In many cases roentgenographic examination was helpful in diagnosis, and serial studies gave additional evidence at times. In some cases no abnormalities were seen in x-ray films although serious injury was present. Almost one fourth of the patients had more than one injury. At times the more serious hidden injury was overlooked because of preoccupation with lesser more obvious trauma. The necessary measures to stop hemorrhage, combat shock, and deal with similar emergencies were given precedence, but radiologic examination was carried out in 198 patients, usually soon after admission. The radiologic examination varied with the kind of injury and the kind of lesion suspected. The correlation of clinical and radiologic examination was essential. Sometimes the radiographic examination was done without moving the patient from the stretcher.

Exposures as short as 1/20 second were employed. A fine line stationary grid or a recipromatic wall-mounted Bucky grid was used to "clean up" secondary radiation. It was not necessary to exceed potentials of 100 kilovolt peak. The milliamperage varied from 20 with mobile equipment to 300 with stationary.

A skillful experienced technician was a necessity for the efficient safe handling of patients with abdominal trauma. Specialized equipment was useless without such a technician.

The radiologist was consulted before, during and after a number of these examinations. It would have been better had he been consulted in all.

Table 1 shows the incidence by sites of lesions. The relatively low incidence of renal injuries is explained by the fact that the series here reported is made up of those proven at operation or autopsy,

• In a survey of its use in 198 cases of penetrating and nonpenetrating abdominal trauma causing various kinds of lesions, roentgenographic examination was found to be a considerable diagnostic aid. Consultation with a radiologist before, during and after the examination would seem indicated.

The general plan of examination included anteroposterior projections with the patient erect, recumbent and in the left lateral decubitus positions, plus a posteroanterior film of the chest with the patient erect. Techniques varied with the condition of the patient and the nature of the lesion clinically suspected. Special procedures were done as dictated by the clinical and radiologic findings. Studies designed to demonstrate displacement of gastrointestinal and urinary organs should be made in anteroposterior and lateral projections.

Factors that were important in determining the site of internal lesions from radiographic evidence were the site of associated fractures, reactive ileus, the position of foreign bodies, and by far the most important the roentgen abnormalities caused by escaped gas, blood, other fluids or contrast media, which caused abnormal densities, displacements of organs and blurring or obliteration of outlines normally visible.

TABLE 1.—Incidence of Penetrating and Nonpenetrating Trauma

Site	Nonpenetrating	Penetrating	Total
Spleen	49	7	56
Abdominal wall	2	46	48
Small intestine	8	26	34
Liver	14	14	28
Bladder	20	2	22
Kidney	12	7	19
Colon	2	15	17
Stomach	1	15	16
Diaphragm	4	11	15
Pancreas	3	5	8
Vascular structures	3	4	7
Gallbladder	0	2	2
	120	152	272

whereas renal injuries were the most frequently diagnosed clinically.

Types of Trauma

Trauma was divided into two types, that which penetrates the abdominal wall, and that which does not. Stab wounds and gunshot wounds were the usual penetrating ones, and nonpenetrating trauma

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included that received in motor vehicle accidents, falls, blows to the abdomen, and the like. The site of injury varied with the kind of trauma that caused it. (See Table 1.)

Multiple Injuries

Trauma to the liver, colon, diaphragm, stomach and small intestine was frequently associated with other injuries. More than one abdominal site was involved in about one fourth of the cases.

Roentgen Findings

Radiologic diagnosis in abdominal trauma is difficult. Roentgen findings were studied under four headings: Fractures, reactive ileus, roentgen opaque foreign bodies, and last, but most important, findings associated with the escape of gas, blood, fluids or contrast media from normal locations.

¶ *Fractures.* The presence of fractures was a valuable lead to the site of internal trauma. Anteroposterior and oblique views were made for rib fractures, but these fractures were easily overlooked. Anteroposterior views were made for fractures of transverse processes and the pelvis.

¶ *Reactive ileus.* Dilated gas-filled portions of the gastrointestinal tract roughly localized the sites of injury. Anteroposterior views recumbent, erect and in the lateral decubitus position were used for this purpose.

¶ *Foreign bodies.* Correlation of the position of roentgen-opaque foreign bodies with the site of the wound of entrance permitted an intelligent guess regarding the possible sites of injury. Anteroposterior and lateral views were a minimum requirement.

¶ *Escape of gas, blood, fluids or contrast media.* The findings produced by such phenomena were the most important in pointing to the site of trauma.

Escaped Gas

It was observed that the gaseous content of a hollow viscus usually escaped into the peritoneal cavity, less frequently into the retroperitoneal space. The stomach, colon and small intestine were the usual sources of traumatic pneumoperitoneum. Penetrating trauma to the abdominal wall resulted in pneumoperitoneum, even in the absence of perforation of a hollow viscus. Retroperitoneal emphysema resulted from perforation of a hollow viscus on its posterior mesenteric attachment or from the rupture of a retroperitoneal portion of intestinal tract such as the second part of the duodenum. Rupture of the second part of the duodenum resulted in either pneumoperitoneum or retroperitoneal emphysema. These findings were often absent on initial films (as was previously reported by Jacobson and Carter⁵) but sometimes appeared on films made later.

Retroperitoneal emphysema was demonstrated with a simple anteroposterior projection of the abdomen. Pneumoperitoneum was demonstrated on such films by visualization of the walls of the intestinal tract. That this could be done was due to the contrast between the air in the lumen and that in the peritoneal cavity. The condition was often difficult to detect and one or more of the following projections were usually required to demonstrate the pneumoperitoneum: An anteroposterior or posteroanterior film of the chest with the trunk erect; an anteroposterior or posteroanterior film of the abdomen in erect position, showing the diaphragm; anteroposterior or posteroanterior projections in the right and left lateral decubitus positions; a translateral view particularly in Fowler's position (i.e., the patient lies recumbent with the pelvis lower than the upper abdomen, the central ray being horizontal).

Escape of Blood or Fluid

Escaping blood or fluid caused abnormal densities, obscured normal shadows or displaced or encroached on normal structures.

Abnormal densities

The hemorrhage was sometimes confined by the capsule of an organ and was manifested as a localized bulge or as a general enlargement of the organ in question (spleen, kidney, liver). Intramural hematomata of the wall of the gastrointestinal tract (as reported by Felson²) may cause a filling defect in the barium filled duodenum.

The hemorrhage was sometimes confined by natural barriers, as by the splenic fossa or the retroperitoneal area (particularly in injuries to the spleen and kidney). Radiologically it appeared at times as a diffuse density in the involved region. Perisplenic hematomata gave the appearance of a grossly enlarged organ with a fairly sharp outline.

Hemoperitoneum was present particularly after splenic or hepatic trauma. Radiologically it caused a diffuse density, displaced the gas filled intestine from the flanks and separated the bowel loops. We found it difficult to consistently recognize even fairly large (500-1,500 cc.) accumulations of blood in the peritoneal cavity. Shifting densities, when both lateral decubitus films are made, helped occasionally. Traumatic pneumoperitoneum made it possible to recognize smaller accumulations in the peritoneal cavity. Birsner¹ recommended artificial pneumoperitoneum to help in this regard.

Infiltration of the gastrosplenic ligament by hemorrhage was said by Gershon-Cohen and co-workers⁴ to be the cause of increased serrations of the greater curvature of the stomach as radiographically observed. This finding was more frequent in patients

with traumatized spleens, but was present in a considerable number of apparently normal subjects.

The site of the visceral fracture has been recognized as an irregularity of the margin of an organ. Frimann-Dahl³ noted this roentgenographic abnormality in laceration of the liver. Birsner¹ said that pneumoperitoneum helped in the demonstration of such a defect.

Fluid-filled segments of the gastrointestinal tract produced confusing densities which sometimes simulated tumorous masses. Hematomata of the abdominal wall mimicked organ enlargement or encapsulated intra-abdominal or retroperitoneal hematomata.

Obliteration of outlines

A listing of the structures that may be obscured by escaped fluids and the site of the injury permitting the extravasation follows:

Psoas shadows—retroperitoneal, renal and splenic trauma.

Renal shadows—retroperitoneal, renal and splenic trauma.

Splenic shadow (which, according to Wyman,¹⁰ can be seen in only 58 per cent of normal subjects) is frequently obscured by perisplenic hematomata.

The liver margins may be obscured as a result of liver trauma, by retroperitoneal hematoma or general hemoperitoneum.

Properitoneal fat lines may be dimmed or obscured by hemorrhage or exudate in the region.

Displacements

Natural air contrast was usually relied upon to demonstrate displacement of the gastrointestinal tract. Artificial air contrast can be provided by pneumoperitoneum, by insufflation of the gastrointestinal tract or by presacral air injection. Barium studies may also be employed to outline the gastrointestinal tract (Lowman and Davis⁶). Arteriograms can be used to show vascular displacements. Such special studies were infrequently employed. Urinary tract displacements were shown by urograms, pyelograms and cystograms. Two views at right angles to each other were required for full appreciation of displacements in three dimensions. One or more of the following findings were found with hemorrhage into or about the following organs or regions:

Liver enlargements. Elevated right diaphragm, right pleural effusion; compression atelectasis of the right base, depression of the hepatic flexure and displacement of the stomach and duodenal bulb to the left.

Right retroperitoneal mass. Elevated right dia-

phragm, right pleural effusion, compression atelectasis of the right base, depression and anterior displacement of hepatic flexure may occur, the transverse colon may be elevated, the stomach, duodenal bulb and particularly the second portion of the duodenum may be displaced to the left, there may be scoliosis convexity toward the contralateral side, the kidney may be displaced superiorly, laterally, medially, inferiorly, or anteriorly depending on the location of the mass, and the ureter may show medial displacement.

Masses in splenic fossa. Left diaphragm may be elevated, and there may be left pleural effusion, left basilar compression atelectasis, displacement to the right and intrinsic pressure defect of the greater curvature of the stomach, depression of the splenic flexure of the colon and, rarely, inferior displacement of the kidney.

Masses in the left retroperitoneal area. Left diaphragmatic elevation, compression atelectasis of the left lung base, left pleural effusion, anterior displacement and extrinsic pressure defect of the gastric pars media, elevation of transverse colon and lateral displacement of the descending colon, medial displacement of the ureter and renal displacement, the direction depending on the location of the mass (anterior displacement should be looked for). Scoliosis with concavity toward the ipsilateral side may be noted.

Bladder. Elevation and narrowing of the bladder shadow to produce a tear-drop shape.

Contrast Studies

The following uses of contrast studies were made:

Bladder. Extravasation was demonstrated by cystograms. Urograms were generally less reliable. Oblique as well as anteroposterior views should be made, and it was noted that an anteroposterior view after voiding sometimes disclosed conditions otherwise not demonstrated.

Kidney. In some cases urograms demonstrated that urinary excretion was unilateral, or diminished or completely absent. Findings of displacement or compression of the pelvicalyceal structures, and sometimes extravasation of contrast substance outside the pelvicalyceal system were shown. In some cases urograms taken demonstrated such extravasation when it was not seen on the original films. Sometimes retrograde studies demonstrated extravasation not shown by urograms.

Arteriograms. These studies should be used in selected cases only. Some physicians might consider them to be indicated for patients whose general condition is stabilized and in whom serious injury such as a ruptured spleen is suspected but

not diagnosed by other means. Many surgeons would prefer exploration in these circumstances. Post-traumatic renal hypertension would appear to be another indication.⁷ The findings would include extravasations from the arterial tree, vascular displacements,⁸ vascular occlusions and avascular areas owing to thrombi, spasm or occlusion of arteries by extrinsic pressure.⁷

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Common Anorectal Complications in Pregnancy

Methods of Management

LEWIS GRODSKY, M.D., San Francisco

THERE IS SOME uncertainty among obstetricians, proctologists and others concerning the most effective management of occasional pronounced anorectal complications that might affect the normal course of pregnancy. Many prefer to defer corrective treatment of the more severe phases of hemorrhoidal disease until the eighth to tenth postpartum week or even later, in the hope that a physiologic and anatomic resolution of the anorectal condition will occur in the interim. Treatment during pregnancy is usually limited to emergency care, consisting of palliation for symptomatic prolapsing internal hemorrhoids, temporizing sclerosing injections for bleeding hemorrhoids, incision and expression of painful external anal thromboses and drainage for the relatively uncommon perianal abscess. In general the attending physician has a conservative attitude toward the treatment of the afflicted pregnant patient.^{5,6,7}

In many pregnant women the first severe anorectal symptoms may be experienced during their first pregnancy or immediately following delivery.³ The most common complication is symptomatic hemorrhoidal disease. Anal fissure is infrequent. Inflammatory disease and abscess formation are also relatively rare during pregnancy. Subsequent pregnancies tend to further the development of pre-existing vascular anorectal disease and to increase the disability and morbidity for the mother. In addition, there is an increased susceptibility to anal thrombosis, "strangulation" and ulceration. It is possible that a bolder approach might be advisable for more adequate care of the severely distressed patient, for the suffering from the anorectal condition is often far greater than the discomfort of the pregnancy itself.

Pregnancy and parturition are not the primary causes of true hemorrhoidal disease and anorectal complications seen during the childbearing period. The basic etiologic factor is an inherited defective venous hemorrhoidal bed. A careful history will invariably bring out instances of familial hemorrhoidal disease in most cases. Pregnancy, menstru-

- The hormonal, anatomic and pelvic vascular changes of pregnancy have a profound effect on the anorectum, making hemorrhoidal disease the most common anorectal complication of pregnancy. Anal infections such as fissures, abscesses and fistulas are relatively infrequent.

Physiologic engorgement of the hemorrhoidal vessels during pregnancy is quite common, transitory and requires only simple palliation. True symptomatic hemorrhoidal disease, however, is less common, more permanent and will usually need corrective treatment to prevent immediate complications and future aggravation. Serious rectal and colonic diagnostic problems demand endoscopic investigation regardless of the pregnancy.

Clinical experience and studies seem to indicate that extreme conservatism in the treatment of severe complicated hemorrhoidal disease during pregnancy appears to be unwarranted. After consultation and agreement, surgical treatment of severe, disabling, symptomatic hemorrhoids that are not responsive to palliation can be safely accomplished during the second trimester of pregnancy. Once true hemorrhoidal disease develops, correction should be done before a subsequent pregnancy to avoid later increased aggravation and morbidity.

ation, strain, constipation and diarrhea merely act as trigger mechanisms to aggravate the pre-existing state. The physiologic and pelvic anatomic changes and the trauma incident to delivery will predispose the pregnant woman to further pelvic vascular damage and anorectal complications.^{1,7}

As a general term for the hormonal, vascular and pelvic anatomic changes of pregnancy, which also serve to make the anorectum prone to breakdown, Pope used "the profound changes of pregnancy."^{5,6} These effects are shown predominantly in the pelvic vascular bed, making anal thrombosis and hemorrhoidal disease relatively more common in pregnant than in non-pregnant young women. Fortunately, in most cases the anorectal changes caused by pregnancy are usually minor, temporary and reversible. There is also a physiologic and anatomic regression in the anorectum in the majority of patients which coincides with the puerperal involution following delivery. These are the facts that have led to a generally conservative and expectant approach in the treatment of pregnant patients with anorectal com-

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plications. There is frequently a tendency to delay or to avoid surgical intervention even in the more severe symptomatic cases.⁷ It is, of course, axiomatic that the mere presence of asymptomatic hemorrhoidal enlargement is never an indication for treatment.

However, the effects of pregnancy on congenitally weakened anorectal vascular tissues or on pre-existing hemorrhoidal disease are likely to be more profound and permanent. In such cases, aggravated vascular damage, permanent anorectal disability and considerable morbidity could develop during and following pregnancy. Corrective surgical treatment in the second trimester of pregnancy or in the postpartum period may be necessary to reduce morbidity during parturition and to avoid reactivation in subsequent pregnancies.^{1,3} All patients who have had severe hemorrhoidal symptoms in the third trimester which do not subside during the postpartum period should certainly have definitive surgical treatment before the next pregnancy.

No exact clinical data are available concerning the actual incidence of true symptomatic hemorrhoidal disease in pregnancy. We are not considering as true hemorrhoidal disease the very common physiologic engorgement and dilatation of hemorrhoidal veins which is often exaggerated in the terminal phases of pregnancy. These effects are usually a temporary nuisance, do not affect the normal course of labor and present no particular problems in management. True external hemorrhoidal disease in pregnancy on the other hand, is shown by external anal thrombosis, perianal hematomas or inflamed external anal tags. If the symptoms are severe and palliative measures do not give adequate relief, total excision of the external hemorrhoid and clot under local anesthesia can be done safely at any stage of pregnancy. Simple incision and expression of the thrombus is often inadequate and recurrence is common.

Large, symptomatic, non-restorable, prolapsing internal hemorrhoids that have not responded to palliation and which are actively interfering with a smooth course of pregnancy should be excised during the second trimester under local or caudal anesthesia only after proctologic consultation and agreement.³ Gerwig¹ expressed preference for continuous caudal anesthesia and the Sims position for the operation. Corrective treatment may be necessary to avoid possible thrombosis, "strangulation" or ulceration in the final trimester or during labor when there could be added morbidity to the mother. Profusely bleeding internal hemorrhoids can be treated during pregnancy by phenol-oil sclerosing injections.

The same hormonal, physiologic and anatomic changes that tend to promote a comparative increase

in hemorrhoidal breakdown also decrease the incidence of inflammatory anorectal disease in the pregnant woman.^{5,6,7} Anal fissure, cryptitis and papillitis are seen only occasionally in the first trimester of pregnancy. Symptomatic care and improvement in bowel function are usually effective measures at this stage. The increase in vascular congestion and blood flow also makes anorectal abscess and fistula formation a rarity during pregnancy. If an abscess should occur, incision and drainage should be done without delay. Subsequent formation of fistulas can be treated after the postpartum period.

Colorectal polyps, malignant neoplasia and ulcerative colitis are rarely present during pregnancy. These conditions are not altered by pregnancy and should always be treated on an individual basis.^{2,4} If a diagnostic problem exists concerning a serious rectal or colonic condition, a careful proctosigmoidoscopic study is safe and should not be omitted. Delay in diagnosing rectal polypoid disease or malignant growth could result in an incurable lesion. Roentgenologic studies obviously should be deferred until after delivery except for extremely urgent conditions.

In 1952 Marks and Thiele³ made an interesting survey on the management of proctologic disorders in pregnant women. A questionnaire was sent to qualified obstetricians and proctologists concerning current management of these problems. There was unanimous agreement that asymptomatic hemorrhoids should remain untreated. Sixty per cent of the obstetricians and proctologists who answered the questionnaire stated that surgical treatment for more severe hemorrhoidal diseases that did not respond to palliative measures could be safely performed during the second trimester of pregnancy. If the operation was postponed, the majority preferred the eighth to tenth postpartum week for surgical intervention. One third of the obstetricians would permit definitive surgical treatment only between pregnancies, although no instance of miscarriage or premature labor was reported following hemorrhoidectomy done between the fourteenth and thirty-second week of pregnancy. Marks and Thiele found that 85 per cent of all parous women with anorectal disease had had their first severe symptoms during the initial pregnancy or delivery. This complication became progressively worse during subsequent pregnancies. The investigators strongly advised prophylactic hemorrhoidectomy before a succeeding pregnancy whenever unresolved symptomatic disease had developed.

Recently we questioned 300 consecutive obstetrical patients during a two-week period at the University Outpatient Department to determine the number who had some form of anorectal discom-

fort. The women were in different months of pregnancy and almost half were primipara. Twenty-five of the 300 patients interviewed had some symptoms directly attributable to hemorrhoids. Five of this group had symptoms which, while moderate, required some palliative care for relief. One woman with severe anal distress had a large, hard, thrombotic external hemorrhoid and anal spasm—a condition indicating consideration of surgical treatment.

I reviewed records of obstetrical patients who entered the University of California Hospital during a 20-year period, 1937 to 1957, to determine the incidence and type of common anorectal complications during pregnancy and what form of treatment was employed. Approximately 22,380 obstetrical patients were delivered during this period. Only a relatively small number, 55 patients (or less than 1 per cent), were catalogued in the cross-index file as having some form of significant symptomatic hemorrhoidal disease which required consideration and treatment. There were many more patients who had temporary physiologic changes or mild hemorrhoids which required little or no treatment. These minor changes were quite common and were not considered to be important enough to warrant being recorded in the cross-index file.

Most of the 55 patients catalogued as having hemorrhoidal disease had painful external hemorrhoids, and in some cases thrombosis had developed. A few had prolapsed and bleeding internal hemorrhoids. Symptoms usually were magnified during labor and in the immediate postpartum period. These patients were generally treated conservatively by means of compresses, anesthetic ointments, suppositories and sedation. The response to palliation was good in the majority of cases. The few cases of external anal thromboses treated surgically were managed by simple incision and manual expression of the clots under local anesthesia. In one case there was immediate recurrence of the clot and external hemorrhoidectomy was necessary.

Twelve patients of the entire group had more advanced and complicated internal and external hemorrhoidal disease which actively interfered with the normal course of pregnancy. Proctologic consultation was requested for these patients after palliative measures failed and an agreement was reached for surgical treatment. A 30-year-old primipara with severe internal and external hemorrhoidal

disease had a hemorrhoidectomy under spinal anesthesia during the second month of pregnancy. A 23-year-old primipara with acute thrombotic gangrenous hemorrhoids was operated upon in the twentieth week of pregnancy. Spinal anesthesia was administered and the lithotomy position was used in this case. In both cases postoperative convalescence was uneventful and the subsequent delivery was normal. Two other patients with severe and persistent symptoms had hemorrhoidectomy in the fourth and fifth months after delivery and experienced no further anorectal problems in subsequent pregnancies. These satisfactory results are in accord with my experiences with similar cases.

Excision before the next pregnancy was recommended by the consultants in six other severe cases to prevent future aggravation and complications. This advice was not always accepted by the patient. Two of the patients received injection treatment for internal hemorrhoids after the postpartum period.

No cases of anal fissure were listed in the entire group. Only two patients had perianal abscesses. In a 38-year-old multipara an anterior perianal abscess developed during the thirty-eighth week of pregnancy. Treatment consisted of immediate incision and drainage under local anesthesia, with excision of the primary opening. In a 20-year-old multipara an ischioanal abscess developed in the immediate postpartum period. The abscess ruptured spontaneously and the resulting fistula was excised seven weeks postpartum.

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Allergic Encephalomyelitis as an Experimental Model for Multiple Sclerosis

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MULTIPLE SCLEROSIS is a steadily progressive neurological disease with occasional remissions and exacerbations. Neither its cause nor its cure is known. It is characterized by destruction of the myelin sheath with a relative preservation of the axon. Demyelinated glial patches, so-called plaques, are formed in the white matter throughout the central nervous system. An increase in the gamma globulin content of the cerebrospinal fluid without an active infectious process, an apparent sensitization to neural tissue believed by some investigators to be a basis for its etiopathogenesis,⁴ a breakdown of the myelin lipids during the disease process—all these phenomena qualify multiple sclerosis as a basic immunobiochemical research problem.

Multiple sclerosis cannot directly be transmitted from humans to animals; therefore allergic encephalomyelitis, which has certain common features with the human disease, is used as an experimental model. First discovered by Kabat and co-workers⁶ in 1946, allergic encephalomyelitis can be produced by injection of brain and spinal cord with so-called Freund adjuvant. Monkeys receiving such injections became paralyzed and their brains showed demyelinating lesions.

It has been stated by some investigators that multiple sclerosis as it exists in humans has never been experimentally reproduced in animals.^{11,16} Despite these objections we believe that allergic encephalomyelitis may be used as an experimental model because of its close relationship to multiple sclerosis.¹⁵ The most convincing argument was presented by Uchimura and Shiraki.¹⁷ They compared the histological changes occurring in the brain of persons who died inadvertently as a result of antirabies vaccination, with similar changes in both multiple sclerosis and allergic encephalomyelitis. They contended that since the vaccine for antirabies treatment is prepared by the use of brain tissue, therefore its active ingredient could be the same as the one in allergic encephalomyelitis. They concluded that the similarities among these three con-

• Proteins isolated from bovine spinal cord exhibit encephalitogenic activity. One of these proteins, of collagen type, was found to be homogeneous. This protein, however, is not considered to be the main encephalitogenic agent; other proteins with different physicochemical characteristics were found to possess higher activity.

The use of these proteins will make it possible to study the allergic nature of the experimental disease and may lead to disclosure of the underlying mechanism of the pathological process not only in allergic encephalomyelitis but in multiple sclerosis.

ditions are more striking and essential than the differences.

An argument voiced against the close relationship among these three is based on the clinical features of the disease: Multiple sclerosis is a disease with exacerbation and remissions, whereas the conditions resulting from antirabies treatment and allergic encephalomyelitis are characterized by a single attack. This could be explained by the fact that the disease is the result of one injection in allergic encephalomyelitis, and of a number of injections in antirabies treatment; but we may assume that the hypothetical release of antigens from the neural tissue in multiple sclerosis is a continuous process.

The problem is to determine which compound or compounds of the neural tissue cause the encephalitogenic activity. Three different kinds of preparations were found to be active: (1) The ether-soluble lower phase of proteolipids;¹⁸ (2) proteins, among them a collagen-like compound,^{1,2,7,13} and (3) a preparation obtained by petroleum ether extraction of the neural tissue.¹⁰ The latter was considered to be a lipid, but since the fresh tissue has a high water content, some of the proteins could have been extracted with petroleum ether.

Experimentation

Experiments done in the present study were carried out on bovine spinal cord. It was found that the lipid-free residue has a higher activity than the organic solvent soluble portion.^{7,14} In the search for the allergic encephalomyelitic agent efforts were concentrated on this preparation. Soon it was found that all the active fractions contained protein as the

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main constituent. The first preparations were made from bovine cord, using the lipid-free residue. From this a water extract was made by autoclaving the lipid-free residue under 15 lb. pressure for 8 hours and the extract fractionated with ammonium sulfate and the fraction proven to be active further purified. The details of procedure have been described elsewhere.¹³ Ultracentrifugal and electrophoretic measurements indicated that the protein is homogeneous. Investigations also included determination of the isoelectric point, molecular weight and electron microscopic measurements.¹² Amino acid analysis of the hydrolyzed protein revealed that the protein is of collagen type. The results obtained by physicochemical measurements revealed that this compound is very similar to collagen isolated from other tissues, presented in Table 1.

It was found that the activity of this collagen accounts for most of the activity of the hot water extract of the bovine spinal cord.⁷ Although it produced maximal disease in guinea pigs, it represents only a fraction of the total activity.

Other procedures were employed for the extraction, using potassium chloride and sodium citrate buffer of low pH. These resulted in very active preparations.

The potassium chloride extract contains seven proteins, as established by paper electrophoretic technique. The chromatographic procedure using diethyl aminocellulose exchanger with high adsorptive capacity with a fraction collector is being adapted for the purposes of the research here reported. To date, only partial purification has been achieved.

Activity Measurements

The various proteins prepared from spinal cord have been tested on guinea pigs and evaluated by a scale set up by Alvord and Kies.⁷ A disease index of 0-10, depending on the severity of the neurological and histological reaction, was assigned. Ten guinea pigs were used for each level of antigen tested. The average disease index was calculated for each group and plotted against the dose injected on a logarithmic scale. The maximum disease index was found to be around 8; a half maximum, 4 (equal to 50 per cent of effective dose). A disease index of 4 was chosen as one unit of the activity and the specific activity expressed as units per milligram of dry weight.

On the basis of this disease index scale, the specific activity of the collagen was 40 units⁷ in comparison with the lyophilized cord which showed a specific activity of 18. Much higher activity than in the collagen was found in our KCl and citrate extracts⁸ (see Table 2). The smallest quantity applied was .004 mg. of the KCl and .001 mg. of the citrate

TABLE 1.—Comparison of the Properties of Collagen from Bovine Spinal Cord with Collagen from Other Tissue.

	Some Properties of	
	Collagen from Bovine Cord	Collagen from Other Tissue
Total nitrogen (per cent)	17.61	18.6
Glycine—Hydroxyproline ratio in molar quantities	6:2	6:2
Mean residue weight	95.0	92.6-93.7
Apparent minimal molecular weight..	39077	38730
Ultracentrifuge measurement		
molecular weight	38000	.....
Isoelectric point (calculated from mobility)	4.6 pH	4.3 pH
Isoelectric point (precipitation with sodium dodecyl-sulphate)	4.5 pH	.....
Hexose (grams per 100 gm.)	1.45	1.0
Hexosamine (grams per 100 gm.)	0.22	0.33
Carbohydrates identified	Glucose	Glucose
	Galactose	Galactose
	Mannose	Mannose
	Eucose	

TABLE 2.—Encephalitogenic Activity of Protein Fractions Prepared from Bovine Spinal Cord^{7,8,9}

Preparation Tested	Specific Activity Units per Mg., Dry Weight
Lyophilized cord	18
Cord acetone powder	22
Collagen-like protein	40
KCl-extracted proteins	200
Citrate-extracted proteins	1000

soluble preparations. These results indicated that the preparations are highly active. Since these protein fractions are not yet homogeneous, we may expect that after further purification the activity will rise.

DISCUSSION

An attempt will be made to give a unified theory for allergic encephalomyelitis, for the condition resulting from antirabies treatment and for multiple sclerosis, based on the following considerations. It has been shown that proteins of the nerve tissue are encephalitogenic and that the disease is produced by injection of these proteins with killed tubercle bacilli containing adjuvant. Furthermore, since in the preparation of the antirabies vaccine, brain tissue is used, it can be assumed that the active compound here is the same as in allergic encephalomyelitis.

If the underlying mechanism of the disease process in multiple sclerosis is similar to the conditions mentioned, then the following chain of events may take place: an infective agent (previous infections on subclinical level) enters through the blood brain barrier and combines with the protein of the brain. This modified protein becomes then antigenic and produces antibodies in the central nervous system. This particular reaction would not require the pres-

ence of a living organism; a residual cell component of a bacterium or of a virus may be sufficient. It has been reported that a single injection of a lipopolysaccharide fraction of *E. coli* changed the permeability of the central nervous system vasculature.³ There is, however, no proof yet that the action of the killed tubercle bacilli in the production of allergic encephalomyelitis is associated with an alteration of the blood brain barrier. But it is noteworthy that the activity of tubercle bacilli does reside in a compound which contains a high concentration (45 per cent) of polysaccharide. Colover^{1,2} reported that a chromatographically pure compound prepared from tubercle bacilli was active when used together with the protein preparations made by the methods herein described. Assuming that a similar polysaccharide from an earlier infection remained in the human body and passed into the general circulation then through the blood brain barrier into the central nervous system and there combined with a particular protein of the brain and spinal cord, then this modified protein might act as a complete antigen, producing antibodies in the central nervous system. As a matter of fact, in both situations, in allergic encephalomyelitis and in multiple sclerosis, the gamma globulin content of the cerebrospinal fluid is greatly increased.

Autosensitization against the brain proteins, which are combined with exogenous substances, is offered then as the basis for the unified theory.

It should be mentioned here that as early as 1937 Ferraro⁵ considered multiple sclerosis an infectious allergic reaction of the central nervous system. As recently as 1958 he reaffirmed this concept although admitting that he did not know under what biochemical or immunobiological circumstances the combination of an infectious or toxic agent and partial antigens occurs.

Considerable progress has been made. Recent work in experimental encephalomyelitis has shown that the disease can be produced by substituting for whole tubercle bacilli and whole brain, purified fractions of tubercle bacilli and purified fractions of whole brain. With the use of a single homogeneous protein it may be possible to find out whether or not antibodies are directly related to the disease process.

In view of the close relationship between allergic encephalomyelitis and multiple sclerosis, it seems supportable that allergic encephalomyelitis may serve as a laboratory model for multiple sclerosis.

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Orbital and Periorbital Tumors

Indications for Exenteration

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THE PRECIOUS GIFT of sight can be matched only by the gift of life itself. Unfortunately, in the treatment of tumors of the orbit and surrounding orbital tissues the decision for removal of the orbital contents often means choosing between the two. The delicate location of the orbit and its relation to surrounding structures enhance the difficulty of managing malignant disease in this area. And likewise, the management of malignant disease of adjacent structures, skin, nasal cavity and paranasal sinuses is made more difficult by their proximity to the orbit. Taken as a whole, therefore, treatment of tumors in this region raises perplexing problems relative not only to anatomy, pathology and physiology, but to one's own philosophy as well.

Specific therapy must await an accurate histologic diagnosis. This is not a great problem when dealing with tumors of the surrounding skin and eyelids, as biopsy in these instances is simple. Other locations, such as the ethmoid and antral sinuses or the orbit itself, require special techniques, often fairly major in themselves, to obtain tissue for diagnosis. Difficult as this may be, one cannot proceed with definitive treatment without histologic study.

The surgical approaches to the orbit for tissue specimens are well documented and need not be repeated here. Total excisional biopsy of a tumor is preferable and should be done wherever feasible. Frozen section analysis can be performed if our pathologist colleagues are willing to declare themselves definitely with this method.² In general, since treatment may mean exenteration, it is best to have routine study of the fixed specimen.

Roentgenograms of the orbital and nasal bones are of much help in determining whether the primary site is within the orbit or in the periorbital structures.³ Invasion into or extension beyond the confines of the orbital walls are early roentgenographic signs of expanding tumors in this region, and much knowledge is obtained from roentgenograms concerning the nature of certain lacrymal gland tumors. The more "benign types"—so-called

• The anatomical location of the orbit, its relationship to surrounding structures and the vital concern to preserve sight, create special problems in the treatment of orbital and periorbital tumors.

Specific diagnosis of orbital tumors can be made only by biopsy. Frozen section technique is very helpful when available. Roentgenographic visualization of the orbital bones is a valuable adjunctive method of determining the extent and type of tumor.

The three most common forms of lacrymal gland tumors are benign "mixed tumors," adenoid cystic carcinomas (cylindromas), and adenocarcinomas.

A method of therapy for the treatment of orbital and periorbital tumors is described and the indications for exenteration are discussed.

"mixed tumors"—frequently show only an enlarged lacrymal fossa without bone invasion. In adenoid cystic types of carcinoma (cylindromas) bone invasion is usually present, while with adenocarcinomas a more frank and widespread bone invasion occurs.

Clinical signs of a lacrymal gland tumor should not be overlooked and awareness of the lacrymal gland as a site of tumor formation will enhance early diagnosis. Exophthalmos with displacement of the globe downward and toward the nose indicates a mass in the area of the lacrymal gland. Routine palpation of the orbit should be practiced.

Histology

There are three commonly encountered broad groups of tumors of the lacrymal gland: benign "mixed tumors," adenoid cystic carcinomas or cylindromas, and adenocarcinomas. Degrees of malignancy occur within each of these types, often making for a completely unpredictable clinical course. In general, however, the benign "mixed tumors" carry a far more favorable prognosis than the other two types, provided spillage and seeding, which result in multiple recurrences that are far more aggressive and malignant than the original tumor, are avoided at the time of initial removal. Other forms of malignant tumors are encountered: undifferentiated carcinomas, squamous cell carcinomas,¹ malignant mixed tumors,¹⁰ muco-epidermoid carcinomas, rhabdomyosarcomas, neuroblastomas and lymphomas

*The term "benign" is used reservedly. Many investigators believe that all primary epithelial tumors of the lacrymal gland are clinically malignant and the use of the term "benign" is misleading. Willis¹¹ considers the distinction between adenomas, carcinomas and "mixed tumors" an artificial one. In this paper the term *benign* refers to those epithelial tumors at the very low end of the scale whose histologic appearance and clinical course suggest slow growth and little tendency toward invasion or metastasis.

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(Mikulicz syndrome). Tumors of the last three types would rarely arise within the lacrymal gland.

The histologic types of cancer which involve the eyelids are predominantly basal or squamous cell types and, rarely, neurogenic tumors also are encountered in this region. Paranasal sinus cancers in the region of the orbit are frequently anaplastic and preponderately of the epidermoid type.

Method of Therapy

If exenteration of the orbital contents were performed initially in the treatment of all tumors of this region it would be gross understatement to say that cure rates would be increased. However, the art in surgical treatment of cancer is to fit the operation to the tumor. This implies that some cancers can be cured with conservative operation, some only by radical approach and some not at all.

The Lacrymal Gland. In dealing with lacrymal gland tumors it is apparent from collected reviews* and personal experience that the large majority of cured patients are those whose tumors on histologic study were either "benign" or of "low grade malignancy." Cures of these patients have occurred with conservative operations, namely local removal of the gland and the encompassed tumor, if the removal has been accomplished without spillage or rupture of the tumor. This infers that the noninvasive, small, or early "mixed tumors" of the lacrymal gland should be treated conservatively. Once the tumor has extended beyond its local confines and into the soft tissues of the orbit it presents a different problem, not alone because of the difficulty of removing it cleanly, but because the larger tumors may not be as uniformly benign histologically as they seem to be at first study.⁴ This impression seemed to be conveyed in a study of salivary gland tumors, which are similar to those in the lacrymal gland but far more common.⁵ In addition to the histologic differentiation there is the anatomical consideration of bone invasion which makes curative conservative therapy almost impossible.

It seems logical, therefore, that exenteration of the orbit be recommended for the larger "benign" tumors. Giving added weight to this logic is the fact that the recurrence rate following conservative management is very high. As with salivary gland tumors, these recurrences are more malignant than the original tumor, and added risk to prognosis occurs with each recurrence, converting a relatively easily cured tumor into one which is cured with difficulty even by exenteration.

The very poor survival rate of patients with frankly malignant, expanding tumors of the lacrymal gland following conservative operation can speak only for a radical approach even initially.

*References 2, 4, 6, 7, 8, 9.

That exenteration will have to be performed eventually appears inevitable, since all reports point to the uniformly high rate of recurrence. In these instances, too, recurrence only means lessened prognosis with deeper invasion toward vital structures necessitating bigger and more heroic operations. In final analysis, although individualization is best for each patient, one cannot escape the fact that in the very great majority of patients with malignant lacrymal gland tumors, exenteration must be done soon or late. Hence it would seem best as the initial procedure.

Not all orbital tumors are best treated by surgical operation. Some are incurable from the start and the surgeon would do best to keep hands off. Anatomical barriers and widespread dissemination frequently preclude clean removal and such conditions would suggest other methods of therapy. Highly malignant, rapidly disseminating orbital rhabdomyosarcomas in children seem to fall into this category, although admittedly there is little to offer other than surgical treatment. Irradiation of orbital lymphomas, and of neuroblastomas too, if feasible, is to be preferred over surgical removal. Fortunately, tumors of this latter group are rare.

The Eyelids. Cancer of the eyelids can become serious enough to require exenteration also. Subtle invasion of cancer into the bony ridge and along the floor of the orbit and medially toward the ethmoids and nasal bones will change a mild-appearing cancer into a clinical menace. Involvement of the area in the region of the inner canthus is an especially serious sign and frequently denotes extension beyond the orbit itself. When these signs occur, one is forced into radical operation, which at this stage is not always successful due to widespread bone involvement. Without exception, all such lesions observed by the author started as small, innocent-appearing growths. Some of the patients received inadequate initial therapy, whether x-ray or surgical operation, and others wilfully neglected themselves. By the time exenteration was indicated they had reached the all-too-familiar stage of post-radiation, postsurgical cancer recurrence in a delicate region which requires ruthless sacrifice of diseased and normal structures to treat. In few other areas of the body is the necessity for early and thorough treatment of the small lesion so important. Only so can eventual ruthless dissection or loss of life be averted.

Surgical Technique of Exenteration

The accompanying drawings illustrate the technique of wide removal of orbital contents and bony structures. The eyelids are sutured together, and biopsy is usually made through an incision in the outer third of the upper eyelid. Exploration also is

performed. Frozen section analysis of the specimen is made. (Figure 1.)

A wide encircling incision is made around the orbit (Figure 1) and carried down to the periosteum. The periosteum is incised and stripped from the underlying bone (Figure 2, steps 5, 5a and 5b). Use of the finger in stripping periosteum is helpful (Figure 3). A medium sized curved clamp is placed deeply within the orbit, just anterior to its apex, and across the muscles, nerves and vessels which then are divided above the clamp. The orbital contents are

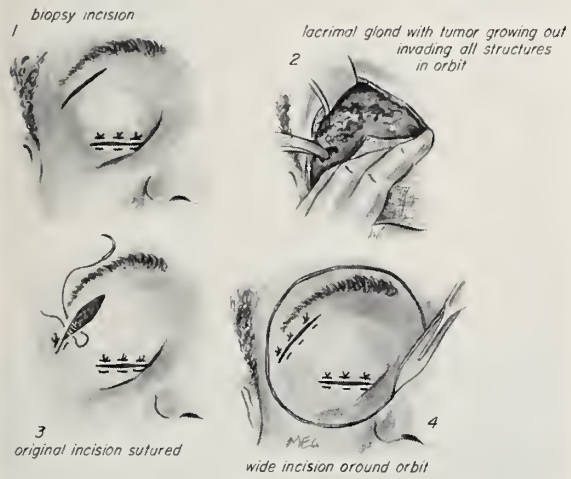


Figure 1.—Steps 1, 2, 3 and 4 in technique of surgical exenteration, beginning with suturing of eyelids together.

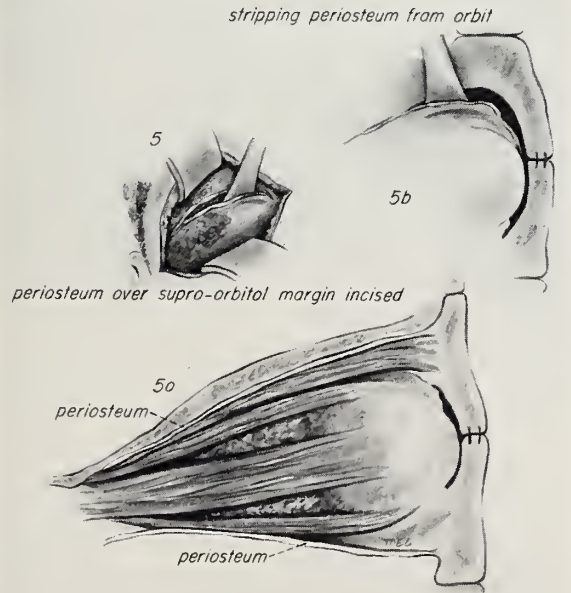


Figure 2.—Illustration of step 5 in wide removal of orbital contents and bony structure.

swept free and removed. The clamp may be released momentarily and vessels individually re-clamped and ligated rather than applying a massive ligature to the whole stump. All redundant tissue is excised (Figure 3). Bony walls and sinus spaces are curetted and rongeured away, exposing dura if necessary (Figure 4), and leaving a clean, flat surface free of overhanging edges or pockets. A split thickness skin graft (about one half a Padgett dermatome) is placed over the orbital defect and sewn in place (Figure 5). A suitable pressure dressing is applied and is left unchanged for about six days. Early ambulation is practiced. Only routine care of the wound is needed and no special post-operative measures are necessary.

DISCUSSION

Data on cases which form the basis of this study are tabulated in Table 1. The cases have been grouped according to site of origin of the tumor.

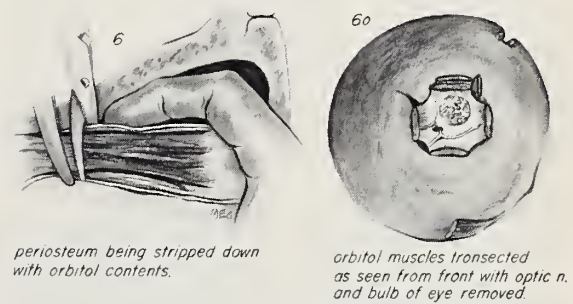


Figure 3.—Sixth step in technique of surgical exenteration.

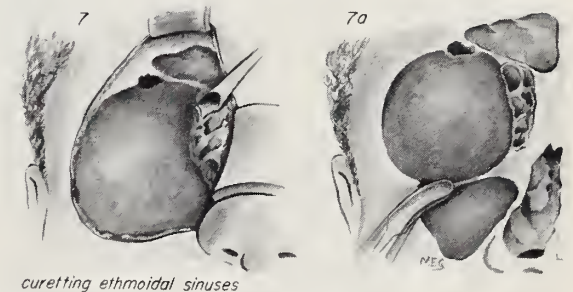


Figure 4.—Technique for curettement of ethmoidal sinuses in orbital exenteration.

TABLE 1.—Clinical Summary of Patients with Exenteration

Case	Year Examined	Sex	Age	Site	Histology	Status When Seen	How Treated—First and Secondly		Result
1	1950	F	33	Lacrymal Gland	Ad. Ca.	Recurrent	Loc. Exc.	Exenter.	N.E.D. 8 yr.
2	1952	F	42	Lacrymal Gland	Cylindroma	Recurrent	Loc. Exc.	Exenter. & RA 3 recur.	A.W.D. 6 yr.
3	1956	M	67	Lacrymal Gland	Ad. Ca.	Recurrent	Loc. Exc.	Exenter. + X-ray	A.W.D. 2 yr.
4	1957	M	48	Lacrymal Gland	Ad. Ca.	Primary	Exenteration	Exenter.	O.D.
5	1953	F	20	Lacrymal Gland	Lymphosa	Primary	X-ray	.....	N.E.D. 5 yr.
6	1951	F	8	Retro-orbit	Fibro SA.	Primary	Exenteration	.....	D.O.D. 1 yr.
7	1954	M	12	Retro-orbit	Neuroblastoma	Recurrent	Loc. Exc.	Exenter.	D.O.D. 1 yr.
8	1951	F	34	Skin Nerve (Lids)	Neuro SA.	Recurrent	Loc. Exc.	Exenter.	N.E.D. 8 yr.
9	1951	M	60	Skin (Lids)	Ba. Ca.	Recurrent	Surg. X-ray	Exenter.	N.E.D. 7 yr.
10	1952	M	64	Skin (Lids)	Sq. Ca.	Recurrent	Surg. X-ray	Exenter.	N.E.D. 6 yr.
11	1956	M	72	Skin (Lids)	Ba. Ca.	Recurrent	Surg. X-ray	Exenter.	N.E.D. 2 yr.
12	1958	M	54	Skin (Lids)	Ba. Ca.	Recurrent	X-ray	Exenter.	N.E.D. 1 yr.

In addition:

- 43 patients with antral cancer—30 with orbital involvement.
5 patients with ethmoid cancer—3 with orbital involvement.

Abbreviations:

N.E.D.—No evidence of disease.
A.W.D.—Alive with disease.
D.O.D.—Died of disease.
O.D.—Operative death.
Ba. Ca.—Basal cell cancer.
Sq. Ca.—Squamous cell cancer.
Ad. Ca.—Adenocarcinoma.
SA.—Sarcoma

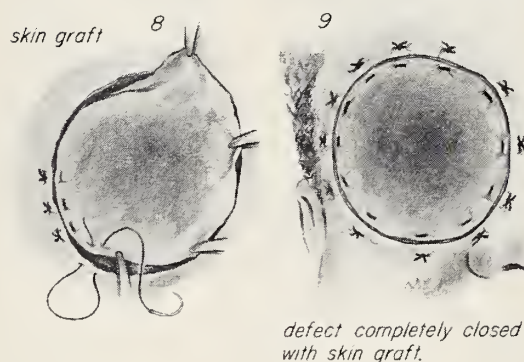


Figure 5.—Method of skin graft closure of defect after wide exenteration.

(For purpose of completeness, 43 patients with cancer of the paranasal sinuses are listed separately in the table. Management of these tumors is not within the scope of this paper, but the relationship is to be mentioned because so high a proportion of patients with paranasal sinus cancers required orbital exenteration in continuity with resection of the primary cancer site.)

Despite the small number of patients in this series with lacrymal gland cancers, the data appears



Figure 6.—Postoperative view following orbital exenteration for lacrymal gland cancer. Note extensive removal of bone and soft tissues covered by skin graft. Inferior opening is maxillary sinus, medial opening is nasopharynx and superior opening is sphenoid sinus. Eight-year survival.

to follow a pattern identical with that of other reports. Points well illustrated are the inevitable recurrences following conservative management; the very extensive bone invasion which accompanies malignant tumors; the radiosensitivity but not radiocurability of the cylindromas; the surgical dangers of resecting posteriorly beyond the orbital

confines (one death 12 hours after operation); the widespread fatal dissemination of sarcomas and neuroblastomas in children; and the sometimes long survivals of patients with lymphomas (lymphosarcoma). The eight-year survival of one patient with an adenocarcinoma is due probably not only to the histologic category (low grade) but also to the very wide removal of all bony structures (Figure 6), which is an essential factor in managing all malignant tumors of the lacrymal gland.

Irradiation as an adjunctive method of therapy should be utilized, not only in patients with tumors of the cylindroma type but also with other types as well. In one patient with an adenocarcinoma (Case 3, Table 1) complete clinical regression followed radiation of a recurrent nodule deep in the posterior recesses of the orbital space. Radiation is not used routinely in the postoperative period, but is withheld until definite evidence of recurrence takes place.

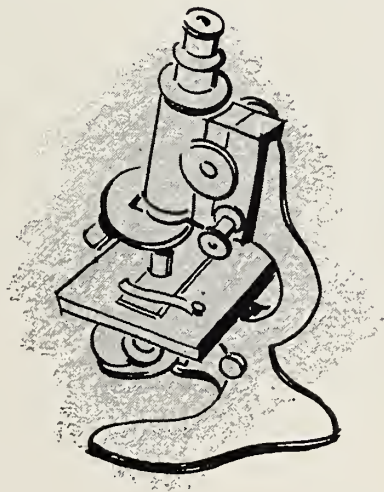
In reviewing the patients who had an exenteration for eyelid cancer, it is worth noting that even at such a late date in the course of the disease the procedure resulted in long freedom from disease in several cases. Since the initial tumor in these patients is almost always seen in a stage at which cure can reasonably be expected, one must conclude that treatment at that time should be extensive

enough to extirpate all the cancer. Here, too, the alternative would seem to be eventual exenteration of the orbit.

450 Sutter Street, San Francisco 8.

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Reserpine in Weight Reduction

The Effect in Obese Patients on 1,000-Calorie Diets: A Controlled Study

MAURICE C. SMITH, M.D., San Francisco

THE EFFECTIVENESS of d-amphetamine preparations as adjuvants to reducing diets has long been recognized; more recently hydrophilic substances (Cellothyl®) have been shown to be useful adjuvants as well.² Certain reports in the literature would appear to support a supposition that rauwolfia preparations tend to depress appetite, resulting in weight reduction,^{6,7} or are useful when administered in conjunction with reducing diets;⁴ while other reports support the opposite supposition—namely that rauwolfia preparations induce overeating and weight gain.^{1,3} Because of this discrepancy, it was thought advisable to test the effect of a rauwolfia preparation in a controlled experiment in combination with d-amphetamine. Cellothyl and a 1,000-calorie reducing diet.

Seventy-three patients (ambulatory Army personnel and their dependents) with exogenous obesity were selected for the study. All patients were more than 15 pounds overweight and most were 30 to 50 pounds overweight. The age range was between 20 and 45 years. There were 42 males and 31 females. All patients were placed on a 1,000-calorie reducing diet with approximately 70 grams of protein a day. In conjunction with this, they were each given 5 mg. of d-amphetamine sulphate (Dexedrine®) and 1 gm. of methyl cellulose (Cellothyl) 30 minutes before each meal. All patients were given a prescription to be filled at our own pharmacy for "obesacil," upon receipt of which the pharmacist gave alternate patients reserpine 0.25 mg. or pyribenzamine 50 mg. to be taken twice a day. Records were thus kept by the pharmacist and prescriptions refilled from these records. The author had no access to these records until completion of the experiment and division of the patients into the three groups as shown in Table 1 had been completed.

Submitted March 30, 1959.

• In a controlled study (the control group receiving pyribenzamine) it was observed that reserpine, in the dosage used, had no effect on weight loss in patients receiving d-amphetamine sulphate (Dexedrine®) and methyl cellulose (Cellothyl®) while on 1,000-calorie diets as compared with the control group.

There was no observable difference in subjective feelings of the patients in the two groups.

Reserpine had no effect on the length of time the patients remained on their diets.

Pyribenzamine was chosen as the control drug because the tablet was identical in appearance to that of reserpine preparation used, and for its sedative effect, which is similar to that of reserpine. This was deemed advisable since it has been reported that sedation in the form of high doses of barbiturates, when added to d-amphetamine in weight reduction regimens, tended to reduce the anorectic effect of the d-amphetamine.⁵

After initial physical examination, blood cell count and an x-ray film of the chest, the patients were seen weekly, at which times the weight and blood pressure were recorded and the diets discussed. The goals established were arbitrarily based on the weight the patients had while in high school, or, if then obese, on a suitable lean weight by standard insurance tables. Any patients who did not get down to these weights were considered unsuccessful in attaining their goal, as were any patients who failed to lose weight consistently each week.

RESULTS

On direct questioning regarding side effects, no significant difference was noted between the experimental and the control groups. There was no alteration in blood pressure in either of the groups. Six of

TABLE 1.—Division of Patients into Categories Based on Success or Failure in Weight Reduction

	NUMBER OF PATIENTS		
	GROUP I (Those who reached goal)	GROUP II (Those who did not reach goal, but lost over 10 pounds before quitting)	GROUP III (Those who quit before losing 10 pounds)
Reserpine-treated.....	15	8	11
Control.....	10	14	9

the 73 patients were discarded from the data for the reason of transfer from the station before completion of the study. Of the remaining 67 patients, 34 were receiving reserpine and 33 pyribenzamine.

Twenty-five of these patients successfully reached their respective goals, ten of them receiving pyribenzamine and 15 reserpine. Twenty-two dropped out of the clinic before reaching their goals but lost more than ten pounds, eight receiving reserpine and 14 pyribenzamine. The remaining 20 patients were considered completely unsuccessful in losing weight, dropping out before losing ten pounds. Eleven of them were receiving reserpine and nine pyribenzamine.

The mean weight loss of all patients (successful or unsuccessful) who were receiving reserpine was $16.2 \pm 2.1^*$ pounds as compared with 17.5 ± 2.2 pounds for the control group, an obviously insignificant difference. When the 42 unsuccessful patients were considered as a group, the mean number of weeks before they dropped out of the study was

*Standard error of the mean.

3.9 ± 0.7 for the reserpine group and 5.9 ± 0.3 for the control group. This difference is not statistically significant.

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California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposiums in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 31, 1959.

CASE REPORTS

Appendicoileal Fistula

PAUL A. MILDE, M.D., and
ROBERTSON WARD, M.D., San Francisco

ONLY A FEW REPORTS have been published concerning internal appendicoileal fistulas that have occurred either with or without a previous, clinically recognized attack of appendicitis. One such case was recently reported, together with a review of the literature.² The present report adds another case and presents the additional finding of striking inflammatory pathologic changes in the appendiceal region in the absence of clinical or radiologic evidence of appendicitis.

REPORT OF A CASE

A 29-year-old, white, German-born man entered Children's Hospital, San Francisco, on February 11, 1958, for exploratory laparotomy.

The onset of the present illness was indefinite, but it probably began in June, 1957, when the patient had mild, mid-abdominal, "pressure-like" pains, which usually occurred within an hour after eating but occasionally started at night. The pains were usually relieved completely by a bowel movement. These pains were unlike any other pain or symptoms of ulcer from which he had previously suffered.

The patient had been treated conservatively for peptic ulcer, presumably duodenal, in 1950 and again in 1955, with good response on both occasions. The diagnosis had been in doubt both times despite roentgenologic evidence of ulcer. In December, 1956, he had had one attack of severe, mid-abdominal colicky pain, accompanied by dizziness, perspiration and near-prostration. The pain lasted ten minutes, suddenly disappeared and did not recur. Results of physical examination of the abdomen remained negative throughout the entire course of observation before the patient entered the hospital.

When the patient was first seen by us, August 8, 1957, roentgenograms were obtained which showed a normal colon. The duodenal bulb was

irregular, presumably because of previous ulceration, but there was no evidence of present activity. Studies of the stool and gastric content were negative for occult blood and the gastric analysis was within normal limits. The gallbladder showed normal function. Because abdominal pain persisted after use of antispasmodics, another roentgenologic study was performed in August, 1957, which showed some dilatation and dysfunction of the duodenum. The lower part of the jejunum and ileum were considered to be normal in caliber and appearance (Figure 1). After five hours a small amount of barium remained in the stomach and small bowel. The head of the column of barium reached the sigmoid colon.

A tentative diagnosis of partial obstruction of the small bowel secondary to bands or adhesions was made. Abdominal exploration was not advised.

In November, 1957, another gastrointestinal study was made which showed progression of the dilatation and dysfunction of the small bowel when compared with the films taken in August, 1957. Operation was again not believed to be indicated. In January 1958, however, the abdominal pains began to increase in intensity and frequency and exploration was advised.

When the patient entered the hospital, physical findings were within normal limits except for the abdomen. The abdomen was soft, without palpable organs; bowel sounds were normal and no masses were felt. In the mid-line and on both sides of the lower part of the abdomen, the patient noted tenderness on deep palpation; he related this tenderness to the crampy pains of which he complained.

Operation was performed on February 12, 1958. Because we expected to find congenital bands obstructing the upper jejunum, a high left rectus muscle-splitting incision was made. The duodenum and upper jejunum appeared slightly dilated and hypertrophied. The duodenal loop seemed fairly low on the ventral surface of the spinal column. No abnormalities were noted in the gallbladder or the pancreas. There were no bands compressing the small bowel.

On manual exploration of the lower part of the abdomen, many adhesions of the omentum to the right lower quadrant were found and freed. A large, extremely firm mass was then felt which filled the curve of the sacrum and the right lower quadrant.

From the Departments of Surgery, Children's Hospital and the University of California School of Medicine, San Francisco 22.
Submitted June 30, 1959.



Figure 1.—Preoperative roentgenogram obtained in 1957. Note the pronounced dilatation of the duodenum and proximal loops of jejunum and delay of passage of barium with stasis in the jejunum and proximal ileum.

The incision was extended to the symphysis pubis for better exposure. Because of the extensive involvement of the terminal ileum, appendix, cecum and mesentery of the sigmoid colon and the presence of several enlarged mesenteric lymph nodes, it was felt that the lesion might be an invasive neoplastic growth. After further dissection it became apparent that the mass was predominantly if not entirely inflammatory in nature (Figure 2).

By use of the suction tip for blunt dissection the mass was freed from the pelvic wall, the hollow of the sacrum and the base of the sigmoid mesentery. Owing to dissection under negative pressure, no free pus was demonstrated and the peritoneal cavity was thus spared from possible gross contamination. The mass when fully mobilized was found to consist of cecum, retrocecal appendix and adherent, partially obstructed terminal ileum. The entire area was surrounded by indurated, chronically inflamed tissue.

An immediate diagnostic section of a mesenteric lymph node was made and the pathologist reported hyperplastic changes rather than neoplasm. The entire lesion, consisting of cecum, appendix and terminal six to eight inches of ileum, was resected and an end-to-end anastomosis of the terminal ileum to the ascending colon was accomplished. The terminal ileum proximal to the obstructed area was only moderately dilated and hypertrophied. The hypertrophy and dilatation were just sufficient to permit an end-to-end anastomosis with the ascending colon with only slight angulation of the transected ileum.

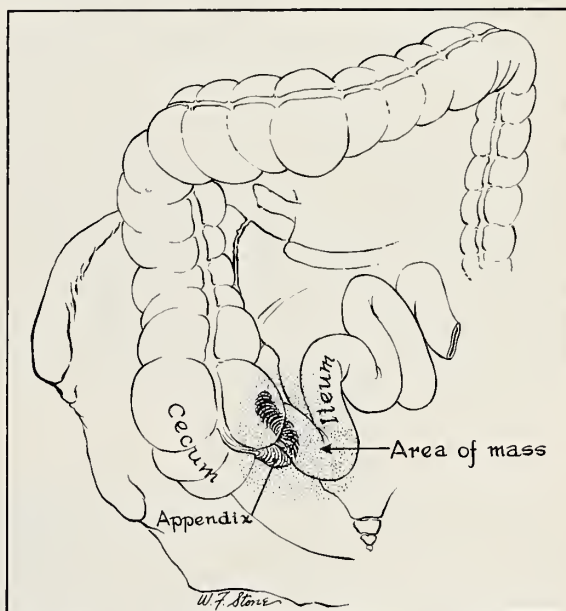


Figure 2.—Semi-diagrammatic drawing of involved area found at operation.

Penicillin and streptomycin were administered for a few days postoperatively. During convalescence the patient had mild abdominal distention for a few days, which necessitated intravenous feedings and the use of a rectal tube. By the seventh post-

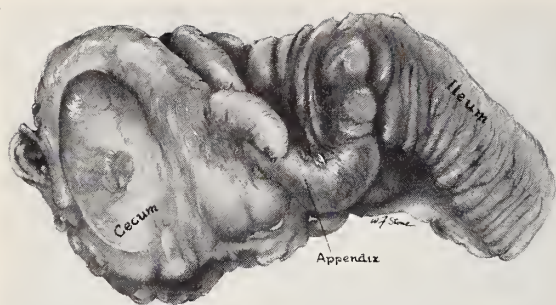


Figure 3.—Drawing made from photograph of specimen before it was opened.

operative day, however, he was able to eat a soft, nonresidue diet and was free of pain. He was seen at intervals for a year after the operation. At the time of this report he was eating a normal diet and had regained all the weight he had lost during the illness.

Pathologic Examination

The pathologic diagnosis was: (1) Acute suppurative appendicitis with perforation and abscess formation; (2) peri-appendiceal abscess with perforation into the terminal ileum, causing partial intestinal obstruction.

On pathologic examination the specimen was found to consist of cecum, appendix and terminal ileum (Figure 3). The inflamed appendix, which was retroflexed and extended inward and upward from the cecum, had perforated at the tip and an abscess had formed there which had then ruptured into the terminal ileum. The rupture had taken place close to the ileocecal valve. The induration and fibrosis associated with the inflammatory reaction had narrowed the ileocecal valve to such a degree that it would barely admit a lead pencil. Figure 4 was taken from a photograph made after the cecum and terminal ileum had been opened except for the narrowed area at the ileocecal valve. The forceps show how small the opening was between the ileum and cecum. The abscess cavity connected the tip of the appendix with the lumen of the ileum.

DISCUSSION

In 1957, Hurwitt and Lentino² reported the case of a patient with a 30-year history of appendiceal abscess. He was admitted to the hospital for diagnosis of pain in the lower gastrointestinal tract. Roentgenograms showed an ileal-sigmoid fistula. At operation an appendiceal ileal fistula was also found. The surrounding, acutely inflamed tissues were replaced by dense fibrous tissues. The authors pointed out that perforation of the appendix most commonly results in frank peritonitis or a localized abscess. They suggested that the abnormal retrocecal position of the appendix may have fixed it in such a position secondary to inflammation that traction prevented closure of the fistula.

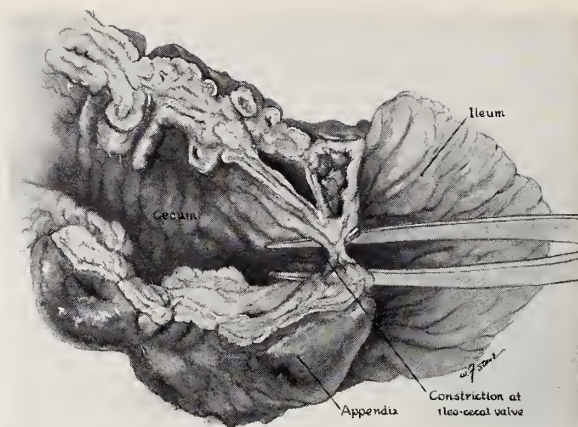


Figure 4.—Drawing made from photograph of specimen after it was opened to show constriction at ileocecal valve.

In 1951, Keeley³ found only three other references to this unusual disease process. He reported four additional cases that he believed were secondary complications of acute appendicitis with perforation. Two of these illustrated intermediate stages in which the abscess had not yet completely perforated the ileal wall. In contrast to our experience, all of Keeley's patients had histories and findings compatible with a diagnosis of acute appendicitis. In none of his cases was the presence of a fistula suspected.

Despite careful postoperative questioning, no definite history of appendicitis could ever be obtained from our patient. Unless it is assumed that his brief episode of severe pain in the right lower quadrant of the abdomen in December 1956 represented acute appendicitis with perforation, we cannot assign an accurate date for the onset of the initial disease. From the extensive pathologic findings it was evident that perforation of the appendix had taken place several months before operation. In most of the reported cases the history was short; there was evidence of localized acute disease and the roentgenograms were either normal or suggestive of some nonspecific inflammation of the ileum.

No discussion of this case would be complete without a review of the roentgenologic studies. Figure 1 shows the findings which suggested partial obstruction in the upper jejunal region. Almost all the abnormalities are present in the roentgenogram that may be produced by partial duodenal or upper jejunal obstruction resulting from congenital bands or acquired adhesions, inflammatory disease, neoplasm or internal herniation; yet the point of obstruction was far distal to the supposed localization. The roentgenograms showed duodenal dilatation, antiperistalsis, incomplete emptying of the duodenum (not relieved by the knee-chest position), and slight jejunal dilatation. The ileum was of normal caliber and there was no apparent delay in the passage of the barium. One must assume that the changes in the duodenum and jejunum were reflex in origin and that such changes could be produced

by partial obstruction anywhere in the small intestine. That these phenomena were reflex in origin is suggested by roentgenograms taken in 1959 (Figure 5). The duodenum was still dilated and hypertrophied but the contents of the bowel, instead of being delayed, were passed along at an excessively rapid rate. A lesson to be learned is the necessity for complete exploration when any of these obstructive findings are demonstrated, regardless of the level at which the obstruction is thought to be.

One might raise the question of regional ileitis with secondary appendicitis in view of the extensive pathologic lesion. It is pertinent that Ginzburg,¹ discussing a series of patients with fistulas secondary to ileitis, pointed out that in cases of this type, whether or not fistulas are present, the appendix is almost never involved in the typical pathologic changes and that in this disease fistulas originate in the diseased portions of the small bowel. Furthermore, in the case herein reported the pathologic changes were definitely not those of regional ileitis.

In the cases so far reported no pattern of symptoms can be seen, and in view of the rarity of these cases such a syndrome may not emerge. One should not be surprised, however, if such a lesion were found during an operation for what was thought to be an appendiceal abscess. In only one of all the cases reported in the literature, that reported by Shallow,⁴ was there as long a history (30 years after a positive diagnosis of appendicitis) as there was in the present case. No cases have been described secondary to regional ileitis or to diseases other than acute appendicitis.

SUMMARY

A report of a case of internal appendicoileal fistula secondary to acute appendicitis is presented in which there was no history of acute appendicitis, and in which the striking operative findings were not expected on the basis of physical examination and roentgenologic studies. Because of the rarity of this disorder it can easily be misdiagnosed.

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Figure 5.—Postoperative roentgenogram obtained in 1959, showing persistent dilatation of the duodenum and proximal jejunum, but to a much lesser extent than before. The passage of barium was unusually rapid and it reached the mid-ileum in 30 minutes.

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EDITORIAL

Moving Day—To 693 Sutter

BEFORE THIS MONTH IS OUT the California Medical Association will move its headquarters office. The new location, just two blocks from the present site, will be at 693 Sutter Street, San Francisco 2.

This change in location has been dictated by the need of the Association for more office space than could be had in rented quarters. San Francisco has suffered from a lack of high quality office quarters for several years and the C.M.A. has been hemmed into space which is patently inadequate for its present needs. Additional space in the present office building is not available; sufficient space in other office buildings cannot be found.

In these circumstances the opportunity to purchase a building in a good location came as a most welcome solution to the problem of space in which to carry on the Association's activities.

It is interesting to note, in passing, that the building now owned by the Association was acquired only nine years ago by another statewide membership organization—the California Teachers' Association—and that it served its former owner well until it was outgrown.

The two organizations have paralleled the incredible growth of the State of California. Both have registered membership increases in large volume. Both have been faced with the need of expanding and complementing their services to their members. The teachers have now outgrown their old quarters and have built a new and larger structure. Their move makes it possible for the C.M.A. to acquire adequate space for its current operations and to provide additional space for expansion over the coming years.

Members of the Association who have served in the House of Delegates in recent years have been aware of the constant increase in activities of the C.M.A. A revision in the By-Laws only a few years back established a system of commissions and com-

mittees to serve throughout each year in handling the multiplicity of problems confronting the Association. With continued growth in membership, a growing general population in California, additional governmental programs which demand constant observation and action, the C.M.A. has been forced to increase its staff, its activities—and its quarters.

In the new location the Association will be able to provide suitable office space for its many activities. It will at last have elbow room for a staff which must grow with the group. It will have room for a library of medico-economic-political material which will serve as a reference source for many activities and assist in planning for future needs and developments.

At the outset the Association will occupy three floors and the basement of a six-story and basement building. The remaining space will be leased to suitable tenants, some of whom are already installed in their quarters. Care has been taken to select as tenants those in fields allied to the medical profession and to eliminate the possible stigma of commercialism. As time goes on and the Association's needs for space increase, some of the leased space will become available for C.M.A. offices. Meanwhile, this cushion of expansion room will provide a steady income which will help amortize the cost of the property.

Financially, the new property is calculated to pay for itself over a period of years. Funds for the purchase have come through bank and mortgage borrowings which have not required the use of reserve funds in any appreciable measure. While the space cost to the Association will increase in the new and larger quarters, such an increase has been inevitable for some time and the degree of increase can be kept at a minimum under ownership of the property.

Thus the California Medical Association enters into a new phase of its development. Historically, the C.M.A. was founded in 1856 in Sacramento,

operated for a few years until the start of the Civil War and became dormant for 11 years. In 1871 it picked up the remains of the original organization and some years later established an office in San Francisco.

For a number of years the Association occupied space in the Butler Building, a San Francisco landmark on Union Square which in recent years has been converted into an I. Magnin store. Before this change the C.M.A. moved into the 450 Sutter Building as one of the earliest tenants while the structure was still in the final building stages in 1929. The present offices are right where they have been for the past 30 years but are several times larger today than in the earlier period of tenancy.

By moving from the present offices the Association will leave a rather large gap in the 450 Sutter Building but the demand for office space by physicians and dentists indicates that the floor area will be occupied by others in a short time.

Moving day, especially from a home which has been occupied for a long time, brings some feelings of nostalgia. But a growing organization, like a growing family, demands more room in which to carry on its daily activities.

Right now it is suggested that after October 21 you change your own records to show the address of the California Medical Association at 693 Sutter Street, San Francisco 2, and the telephone number to PRospect 6-9400.

More Than Provincial

MEMBERS of the medical profession and of the California Medical Association share the pride of Stanford University in the opening of the new Stanford Medical Center of the university in Palo Alto. This demonstration of what can be accomplished by an independent institution warms the hearts of the friends of this university and those who believe in the importance of non-tax-supported organizations, institutions and medical schools. For those long associated with the medical school in San Francisco it brings feelings of nostalgia which grip the heart, along with high hopes that in its new setting Stanford University School of Medicine will continue forward as a leading medical school of high degree.

The resounding publicity given to virtually every detail of the new structures, the new equipment and the new curriculum indicates events that are of more than provincial importance. For the attention given singularly to Stanford for the moment is but a part of the growing admiration of the quality of medical teaching and research that is being done in all the five great medical schools in California. And the attention that has been brought to us in this way will serve to further enhance our ability to provide better and better medical training, which will reflect ultimately in better medical care.

Certainly there can be little added here to the prideful reporting done in the public press on the new medical center buildings, the research facilities, the cooperative effort between the university and the city of Palo Alto, the money contributed, the

money spent. What we can do is point to some of the possibilities for lasting benefits, widely enjoyed, that may be expected to flow from the growing recognition of our state's burgeoning importance in medical research and teaching.

The stature of medical teaching in this state is such that, more and more, we can expect to attract a good choice of the aptest of students, the ablest of faculty to teach them and the money to support research.

It is probable that to medical educators and others interested in medical training, the innovations in medical school curriculum that begin this year at Stanford are of far more interest than the more widely reported data on new plant and equipment. The redesigned course for nascent physicians is shaped to permit the students to become more rounded persons through development of perceptiveness and sensitivities in the humanities even as they take intensive training in medicine. It is gratifying to note in this regard that whereas the news columns of the public press gave the greater share of attention to the material aspects of Stanford's new medical school and teaching hospital, the interest of the writers on the editorial pages, whose job it is to interpret and to look ahead, seemed to turn more toward the changes in the concept of teaching medical students.

As to the hospitals, the academic buildings and the equipment, they are facts and all those who helped bring them about are to be congratulated; as to the changes in medical schooling, they are wholesomely ambitious, hopeful and commendable.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 451st Meeting of the Council, Ambassador Hotel, Los Angeles, August 8, 1959.

The meeting was called to order by Chairman Lum in the Colonial Room of the Ambassador Hotel, Los Angeles, on Saturday, August 8, 1959, at 9:30 a.m.

Roll Call:

Present were: President Reynolds, President-Elect Foster, Speaker Doyle, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Shaw, Gifford, Harrington, Davis, Sherman, Campbell, Lum, Bostick and Teall.

A quorum present and acting.

Present by invitation were Messrs. Clancy, Thomas, Whelan, Marvin, Edwards and Collins, Dr. Walter E. Batchelder and Mrs. Margaret Griffith of C.M.A. staff; Eugene Salisbury of the Public Health League of California, Messrs. Hassard and Huber, legal counsel; county executives Rosenow of Los Angeles, Bannister of Orange, Brayer of Riverside, Dochtermann of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Wood of San Mateo, Donovan of Santa Clara, Dermott of Sonoma and Monnich of San Joaquin; Dr. William Gardenier and Messrs. Richard Lyon and Wilson Wahlberg of C.P.S.; and Doctors Albert C. Daniels, Marshall Porter, John Rumsey, Francis J. Cox, Malcolm Merrill, Francis E. West, H. Dean Hoskins, William Todd, Bruce Jessup, H. L. Foucher, Donald Abbott, Ferrall H. Moore, Chester K. Barta, Dudley Cobb, John Keye and Benjamin Yellen.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 450th meeting of the Council held June 27, 1959, were approved.

2. Membership:

(a) A report of membership as of August 5, 1959, was presented and ordered filed.

(b) On motion duly made and seconded Dr. Ronald J. Macdonald of San Bernardino County was voted Retired Membership.

(c) On motion duly made and seconded in each instance, seven applicants were voted Associate Membership. These were: Alfred Appelbaum, Orange County; Carlos E. Harrison, San Diego County; Donald Helgren, M. Silvija Hoag, San Francisco County; Jadwiga W. Selzer, San Mateo County; John T. Wilson, Jr., Santa Clara County, and Chin Hsin Gin, Tulare County.

(d) On motion duly made and seconded, reductions in dues were voted to four members because of illness or postgraduate study.

3. Unfinished Business:

Guides for members of the House of Delegates. On motion duly made and seconded, the Guides for the Members of the House of Delegates were approved.

4. Standing Rules for the Council:

On motion duly made and seconded, Rule 8, relating to Finances, was approved as a part of the Rules for the Council. This reads as follows:

"8. Non-budgeted Appropriations:

"Before the Council votes on any proposal for the expenditure of funds in excess of, or not included in, the current year's budget, the proposal (whether originating in a Committee or

T. ERIC REYNOLDS, M.D.	President
PAUL D. FOSTER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Chairman of the Council
SAMUEL R. SHERMAN, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D.	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary
General Office, 693 Sutter Street, San Francisco 2 • PRospect 6-9400	
ED CLANCY	Director of Public Relations
Southern California Office:	
2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341	

Commission or Council motion) must be referred to the Finance Committee *for a written report*. The Finance Committee's report, if in favor of the requested appropriation, must specify the amount appropriated and the source of funds to be utilized.

"By unanimous vote, the Council may direct the Finance Committee to submit its report at the same Council meeting at which a proposal is referred to it. Otherwise, the Finance Committee should submit its report on any referred proposal at the next subsequent Council meeting."

5. *Joint Council for the Improvement of Health Care of the Aged:*

Doctor Francis J. Cox reported on a meeting held with representatives of the dental profession and of hospitals and nursing homes. On motion duly made and seconded, it was voted that the Association should participate in the Joint Council representing these groups for the improvement of health care for the aged.

On motion duly made and seconded, it was voted that the Committee on Nominations and the President should make nominations of three members to serve on this Joint Council.

6. *Committee on Scientific Work:*

Dr. Albert C. Daniels, chairman of the Committee on Scientific Work, reported for the committee and requested that the Council authorize the staff to plan for annual sessions five years in advance. On motion duly made and seconded, this proposal was approved.

Discussion was held on the advisability of holding the annual session in April or in February as recommended by the Committee on Scientific Work.

On motion duly made and seconded, it was voted to hold the initial session of the House of Delegates on Saturday evening, followed by a session on Sunday morning and a final session on Wednesday; this arrangement would be used on an experimental basis at the 1960 Annual Session and further consideration given to this arrangement following that session.

7. *Committee on Nominations:*

Councilor Bostick, chairman of the Committee on Nominations, reported that Dr. Edward C. Rosenow, Jr., had resigned as chairman of the Committee on Postgraduate Activities and a member of the Commission on Medical Education. His committee recommended that Dr. Albert C. Daniels be appointed interim chairman of the Committee on Postgraduate Activities until a review of the entire field of continuing medical education could be carried out. On

motion duly made and seconded, this recommendation was approved.

On motion duly made and seconded, it was voted that the Council Chairman should appoint an ad hoc committee of nine members to review the field of continuing medical education and make recommendations to the Council. A proposal to establish a budget of not more than \$5,000 for this committee was referred to the Finance Committee for study and report.

On motion duly made and seconded, Dr. Rosenow's resignation was accepted with regret and the Council voted to extend best wishes to him in his forthcoming affiliation with another organization.

(Dr. Lum announced that Dr. Thomas Brem had been appointed to succeed Dr. Rosenow as editor of *Audio-Digest*.)

Dr. Bostick recommended that the name of the Committee on Civil Defense and Disaster be changed to become the Committee on Disaster Medicine. On motion duly made and seconded, it was voted to introduce an amendment to the By-Laws to effect this change.

On motion duly made and seconded, it was voted to increase the Committee on Rehabilitation by two additional members. Doctors P. J. Salmon of San Mateo and Howell Wiggins of San Diego were approved for these appointments.

On motion duly made and seconded, Dr. Packard Thurber, Jr., was approved as a member of the Committee on Industrial Health to succeed the late Dr. A. C. Remington, Jr.

8. *Report of the President:*

Dr. Reynolds reported on the Portland conference of the A.M.A. Committee on Prepaid Medical Care Plans and noted that California had been very well represented at the Conference.

Dr. Reynolds also reported for the Committee for Emergency Action, which recommended that the dinner for the President scheduled at each Annual Session should honor in addition the President of the Woman's Auxiliary and that the Auxiliary be allowed to invite guests to an invitation reception preceding this dinner. On motion duly made and seconded, this report was approved.

Dr. Reynolds also presented several requests from the Woman's Auxiliary for arrangements at the 1960 Annual Session.

Dr. Reynolds also presented and discussed the written report of the Committee for Emergency Action on the handling of the 1958 survey of the Relative Value Study. On motion duly made and seconded, this report, with amendments, was approved.

On motion duly made and seconded, it was voted that the Committee for Emergency Action, working

with the Committee on Fees, should develop an acceptable method of releasing information on the 1958 survey of the Relative Value Study.

9. *Finance Committee:*

Chairman Heron of the Finance Committee presented a written report recommending the following appropriation of funds:

(a) Purchase of life insurance on the life of Dr. Walter E. Batchelder.

(b) Payment of the expenses for association representatives at the Portland Conference of the A.M.A. Committee on Medical Care Plans.

(c) Approval of an additional \$4,000 to cover transportation expenses for added county society representatives at the Annual Conference of County Officers.

(d) Approval of \$4,000 to cover the costs of two school health conferences.

(e) Approval of \$800 additional to include Napa as one of the societies on a circuit course planned by the Committee on Postgraduate Activities.

Dr. Heron also presented a report on the current and projected financial status of the Association, the Trustees of the C.M.A. and Physicians' Benevolence Fund.

10. *Functions of Association Officers:*

Councilor Davis, chairman of an ad hoc committee to review the functions and spheres of responsibility of association officers, reported that the committee had met on three occasions and would hold additional meetings prior to bringing in a report.

11. *Commission on Medical Services:*

Councilor Sherman reported that the Liaison Committee to the State Department of Social Welfare had met on several occasions. The program for the needy aged, he reported, was showing some financial improvement; the programs for needy blind and needy children may require some reductions in drug allowances in order to conserve funds.

Dr. Sherman also requested authority for the committee to review cases in dispute where the local review committee might feel unable to act. On motion duly made and seconded, this authority was voted.

At the request of the Board of Social Welfare, the committee requested authority to write to the county societies relative to the function of medical consultants in the counties. Dr. Sherman expressed the committee's belief that the review of films, laboratory reports, etc., should be handled through the county societies rather than the welfare departments. On motion duly made and seconded, the President was authorized to write to the county societies on this matter.

On motion duly made and seconded, approval was voted for letters to be sent to county societies urging their renewal of contracts with California Physicians' Service for the handling of fiscal matters in public welfare cases.

Dr. Ferrall Moore of San Mateo, representing the California Society of Internal Medicine, requested the Council to ask California Physicians' Service to restore to its fee schedules covering public assistance and veterans' programs item No. 029 (the fee for medical cases requiring extensive workup). On motion duly made and seconded, it was voted to refer this request to the Committee on Fees.

Dr. Sherman reported that the Department of Social Welfare will issue regulations to pay for the following type help under the Aid to Totally Disabled program (A.B. 288): (1) Physician home and office visits, (2) Nursing services, (3) Physical therapy, (4) Appliances and devices, and (5) Household rehabilitation equipment. The case limit on expenditures will be \$300 per year, including medical diagnostic expense limited to \$75 per year. The department has assured that the program will move into operation slowly and that budget allowances will be strictly observed.

12. *Governor's Conference on Traffic Safety:*

Dr. Chester Barta, representing the Association on the advisory committee to the Governor's Conference on Traffic Safety, gave a progress report. The conference will be held in the late fall.

13. *Commission on Community Health Services:*

Councilor MacLaggan asked authority for the Commission on Community Health Services to cooperate with the State Department of Public Health on matters of air pollution. Such authority was granted.

Discussion was held on the medical provisions for the 1960 Olympic Games, to be held at Squaw Valley. On motion duly made and seconded, it was voted to appoint Councilor Davis to investigate the program and facilities for such medical care and to authorize him to call for assistance from other physicians.

14. *State Department of Public Health:*

Dr. Malcolm Merrill, Director of the State Department of Public Health, reported that a program for investigation of radiation was being set up under terms of new legislation. Also following new legislation, the department is developing standards for the control of automobile exhaust gases, is establishing a four-year pilot study of epilepsy and will review the present alcoholic rehabilitation program.

Dr. Merrill reported that the incidence of poliomyelitis remains low but is about double the 1958

rate. A shortage of Salk vaccine may be encountered in some areas within the next month, he said.

Announcement was made of the death of Dr. Frederic Kriete, administrative assistant to Dr. Merrill and, on motion duly made and seconded, it was voted to adjourn this meeting in his memory and to notify his family of the high regard in which he had been held by the Council.

15. *State Department of Mental Hygiene:*

Dr. Marshall Porter, deputy Director of Mental Hygiene, reported that the financing of facilities under the Short-Doyle program (outpatient mental health centers in communities or counties) remained on direct matching of county appropriations by the state. The program is progressing satisfactorily, he said.

The department's building plans, Dr. Porter stated, call for the completion of one 1,000-bed hospital now under construction and no new hospitals planned for the 1961 fiscal year. Instead, the department plans to build "day hospitals" in which the patient will be cared for the breakfast-through-dinner hours and return to his own home for the night.

16. *California Physicians' Service:*

Councilor Heron, reporting for C.P.S. stated that the C.M.A. would not be called upon to assist in the financing of the initial stages of the "MD-65" program. He also reported on the fact that C.P.S. has now existed for 20 years and that its subsidiary, California Physicians' Insurance Corp., has been well received by some major groups of covered employees. The major programs of C.P.S. are currently operating on a self-supporting basis, he said.

17. *Public Relations:*

Ed Clancy, director of public relations, reported on plans for President Louis M. Orr and President-Elect E. Vincent Askey, to appear at the C.M.A. 1960 Annual Session and expressed the hope that a large number of members would welcome them.

18. *Migratory Farm Workers:*

Dr. Ben Yellen of Imperial County appeared at his own request and expressed his views on the provision of medical care for migratory farm workers.

Councilor Wheeler outlined the problems involved in furnishing medical care to migratory farm workers, both citizens and aliens. As to alien workers, he suggested that the county medical societies establish "sick-call stations" and staff them on a rotating basis, that the Relative Value Studies at a reasonable coefficient be employed to establish fees and that the county societies use their review committees to determine disputes.

Dr. Bruce Jessup of Palo Alto reported on a meeting called by the Governor with representatives of several state departments. Councilor Davis read a resolution from the Santa Clara County Medical Society asking that this entire problem be investigated.

On motion duly made and seconded, it was voted to refer this matter to the Committee on Rural Health, with authority for the committee to call upon physicians or other consultants.

19. *Medical Warning Identification:*

Councilor Harrington presented a request from a member for moral support for an identification bracelet developed by him for the recording of diseases under treatment, allergic reactions or other conditions to be noted by physicians in the event of emergencies. It was agreed that the promotion of this form of identification would not be opposed by the Association.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:55 p.m. in the memory of Dr. Frederic Kriete.

DONALD D. LUM, M.D., *Chairman*

MATTHEW N. HOSMER, M.D., *Secretary*



— In Memoriam —

CLARK, JOHN NEAL. Died in Vallejo, August 16, 1959, aged 47, of a cerebral hemorrhage. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1941. Licensed in California in 1941. Doctor Clark was an associate member of the Solano County Medical Society.



DUCCAN, HENRIETTA. Died in San Francisco, August 7, 1959, aged 78, of a coronary occlusion. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1903. Licensed in California in 1916. Doctor Duggan was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



EDGERTON, MERLE MARION. Yellowstone Park area, Montana, August 1959, aged 49. Doctor and Mrs. Edgerton were listed as missing and presumably dead after the Montana earthquake of August 18, 1959. Graduate of University of Southern California School of Medicine, Los Angeles, 1951. Licensed in California in 1951. Doctor Edgerton was a member of the Fresno County Medical Society.



EGENOLF, GEORGE FRANKLIN. Died in La Paz, Baja California, August 21, 1959, aged 39, by drowning while skin-diving. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1945. Licensed in California in 1946. Doctor Egenolf was a member of the San Diego County Medical Society.



JOHNSON, CLARENCE ARTHUR. Died August 27, 1959, aged 79. Graduate of Rush Medical College, Chicago, Illinois, 1910. Licensed in California in 1913. Doctor Johnson was a member of the Los Angeles County Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.

JONES, JOHN PEACHEY. Died May 15, 1959, aged 74. Graduate of the University of Virginia School of Medicine, Charlottesville, 1908. Licensed in California in 1914. Doctor Jones was a retired member of the Los Angeles County Medical Association and the California Medical Association and an associate member of the American Medical Association.



MEARNS, JACK GREENE. Died in Palo Alto, August 27, 1959, aged 57. Graduate of University of Illinois College of Medicine, Chicago, 1931. Licensed in California in 1943. Doctor Mearns was a member of the Los Angeles County Medical Association.



MOVITT, SOLOMON I. Died May 3, 1959, aged 80. Graduate of the University of St. Vladimira Faculty of Medicine, Kiev, Russia, 1900. Licensed in California in 1923. Doctor Movitt was a member of the Los Angeles County Medical Association.



PARIS, STERLING ARTHUR. Died August 16, 1959, aged 42, by drowning. Graduate of University of Nebraska College of Medicine, Omaha, 1943. Licensed in California in 1948. Doctor Paris was a member of the Orange County Medical Association.



ROSOVE, LEON. Died in Los Angeles, August 10, 1959, aged 54, of heart disease. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1931. Licensed in California in 1931. Doctor Rosove was a member of the Los Angeles County Medical Association.



TAYLOR, GEORGE MOSSER. Died in Los Angeles, August 31, 1959, aged 61, of heart disease. Graduate of College of Medical Evangelists, Loma Linda-Los Angeles, 1924. Licensed in California in 1924. Doctor Taylor was a member of the Los Angeles County Medical Association.



APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

Eighty-ninth Annual Session CALIFORNIA MEDICAL ASSOCIATION Los Angeles, California FEBRUARY 21*-24, 1960

HOTEL ROOM RATES†

AMBASSADOR HOTEL	Single	Twin Beds	Suites
3400 Wilshire Boulevard			
Moin Building.....	12.00-22.00	16.00-26.00	32.00-44.00
Gorden Studios.....	18.00-28.00	22.00-32.00	44.00-58.00
CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard....	9.00-10.00	14.00	20.00
Bungalows.....		16.00	25.00-40.00
THE GAYLORD HOTEL			
3355 Wilshire Boulevard....		12.50	18.00
HOTEL CHANCELLOR			
3191 West Seventh Street..	9.00	12.00	
SHERATON-WEST (formerly Sheraton-Town House)			
2961 Wilshire Boulevard....	12.50-18.00	17.50-23.00	34.00

ALL RESERVATIONS MUST BE RECEIVED BEFORE: JANUARY 15, 1960

***February 20: House of Delegates will start with evening meeting Saturday, February 20.**

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION

693 Sutter Street

San Francisco 2, California

Please reserve the following accommodations for the 89th Annual Session of the California Medical Association, in Los Angeles February 21-24, 1960. (House of Delegates members: First meeting of House begins Saturday evening, February 20.)

Single Room \$..... Twin-Bedded Room \$.....
Small Suite \$..... Large Suite \$..... Other Type of Room \$.....
First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date):..... Hour:..... A.M. P.M. } Hotel reservations will be held until
Leaving (date):..... Hour:..... A.M. P.M. } 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type
Name..... Officer?..... Delegate?..... Alternote?.....
Address..... County.....
City and State.....

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

THE California Board of Public Health has adopted certain revisions in the regulations affecting construction and operation of hospitals, nursing and convalescent homes, and related health facilities licensed by the State Department of Public Health.

The changes were made to provide more specific requirements and to clarify the intent of existing requirements in relation to definition of hospital buildings, standards for nursing personnel and supervision, methods for disposal of infected waste materials, specifications for air conditioning and mechanical or electrical systems, meal service and other phases of operation and construction.

These revised regulations are being printed and will soon be available through the Bureau of Hospitals, State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

California's first community-wide in-service education program on control of hospital infections was held recently in Marysville. More than 200 persons attended, representing hospital and health department administrative personnel, registered and public health nurses, orderlies, nurse's aides, and hospital housekeeping and kitchen workers.

Four consecutive weekly instruction sessions were held with selected practicing physicians and Dr. Leon M. Swift, the Sutter-Yuba County health officer, participating as resource staff. Nursing directors of the four area hospitals and the vocational nursing instructors of Yuba College were instrumental in organizing the institute, which was aimed at controlling hospital acquired infections through improved nursing care practices.

The W. K. Kellogg Foundation has granted support to the department for a five-year research project on public health administration. The grant will enable the department to set up machinery for applied research in the direction of better public health administration.

Under study will be the financing of public health, community nursing services, the functions of various types of health personnel, the provision of public health services in areas with no health departments, more effective ways to conduct environmental health programs, and the components of prevention programs.

Dr. Arthur C. Hollister, Jr., has left his position as chief of the Bureau of Acute Communicable Diseases to become project director. The project will be carried on in the department's new Division of Research, headed by Dr. Robert Dyar. Dr. Philip Condit is in temporary charge of the Bureau of Acute Communicable Diseases.

Of the hundreds of acts passed by the Legislature at its 1959 session, 43 related to the activities of this department. Several of these, cited here in capsule form, are of particular interest to California physicians:

SB 194 provides for the creation of a Cancer Advisory Council in the department, and for the regulation and control of drugs, medicine, compounds and devices used in the diagnosis, treatment and cure of cancer.

Another bill permits operators and employees of children's boarding homes and day nurseries to have annual tuberculin skin tests (to be followed by an x-ray of the lungs only if positive) as an alternative to annual x-ray tests.

SB 737 appropriated \$32,000 for diagnosis and treatment of childhood nephrosis, thus adding this crippling condition to the crippled children's program. The department's Crippled Children Services also was authorized to conduct a study relative to the feasibility of extending the services provided to physically handicapped children by the state to children suffering from epilepsy, and to establish pilot projects. Appropriated was \$34,965 to conduct the study, which terminates June 30, 1963, in the 1959-60 fiscal year.

AB 643 provides that dogs used for hunting, if they have been vaccinated for rabies in their county of residence, are not subject to the rabies vaccination requirements of local ordinances outside of their county of residence.

Another act makes it a misdemeanor for any person other than a licensed physician, surgeon, chiropractor or person practicing a licensed healing art, or any technician working under the direct and immediate supervision of such persons, to operate or maintain any x-ray, fluoroscope or other equipment employing roentgen rays, in the fitting of footwear or in viewing bones in the feet.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

We Help Our Own

"AS WIVES OF PHYSICIANS one of the greatest contributions we can make is to help take care of our own needy doctors, giving them a few comforts in their old age or tiding them over during a prolonged illness so that they may later resume active practice and economic independence. There are over one hundred physicians in need of aid at this time. They come from almost every county in the state. However, the majority live in and about Los Angeles since there the climate is warmer and prices more reasonable than in some localities; hence it is easier to maintain an existence. These self-respecting physicians who, through age, illness or other misfortunes, have become unable to provide the necessities of life for themselves and their dependents must now first ask for county charity or state aid, then from the small amount of money on hand in the Benevolence Fund supplemental aid is given by our State Medical Society for clothing, glasses, artificial limbs, wheelchairs, et cetera."

The above is taken from the November 1941 and October 1942 issues of *Courier*, the official publication of the Woman's Auxiliary to the California Medical Association.

Today the Medical Benevolence Fund is known as Physicians' Benevolence and is still a major project in our state auxiliary program, with most of the county auxiliaries participating.

The Benevolence Fund was started in 1940, when Dr. Axel E. Anderson of Fresno secured passage by the House of Delegates of the C.M.A. of an amendment to the By-laws to provide that out of the annual dues of each active member the sum of at least one dollar be earmarked for benevolent purposes. At this time a Physicians' Benevolence Committee was established, with Dr. Anderson as chairman, to administer the funds raised for benevolence. The fund was created with a \$60,000 endowment as its goal, because of the steady growth of the medical population in California and monetary inflation, this original figure became entirely inadequate.

In 1955 a corporation was formed to take over the Benevolence project and the Physicians' Benevolence Committee was disbanded. The California

Medical Association now makes its dues allocation payments direct to the corporation and the members of the C.M.A. Executive Committee and/or Auditing Committee comprise the Board of Directors of the corporation. An operating committee, with Dr. Ford P. Cady of Los Angeles as chairman, Doctors Elizabeth Mason Hohl of Los Angeles, C. L. Boice of Palo Alto, Don C. Musser of San Francisco and George G. Wolf of Fresno administers the funds. Mr. John Hunton, Executive Secretary of the California Medical Association, serves as executive secretary and handles all details, supervision of funds and other management functions.

It is the responsibility of the county medical societies or the auxiliaries to bring to the attention of the C.M.A. committee any physician or physician's family who is in need of aid. If a need for aid arises in your county, a letter to Mr. Hunton at the C.M.A. office will receive prompt attention.

In addition to direct aid, Physicians' Benevolence contributes \$6,000 a year to assist in maintaining the Physicians Aid Home, sponsored by the Los Angeles County Physicians Aid Association and the Los Angeles County Medical Association. This home in Los Angeles provides sanitarium care for ill and needy physicians and serves as "home" where aged physicians and their families are provided with the care and comfort they need. Currently there are about thirty-five people living in the home. Some sixty-seven others in the area are being given assistance in their own homes, sanitariums and nursing homes. Only about 12 per cent of the Home's funds comes from the Physicians' Benevolence Fund.

Last year there were seven recipients, located in various counties, receiving assistance from Physicians' Benevolence for a total cost of \$6,450.

The money contributed by the county auxiliaries is sent to the Chairman of Physicians' Benevolence of the State Auxiliary and at the end of the year the total amount is given to the C.M.A. This money is raised by dues, voluntary contributions, benefits, rummage sales and "in memorium" contributions. The auxiliary goal each year is at least one dollar per member as we continue to help our own.

MRS. THEODORE A. POSKA
*President, Woman's Auxiliary to the
California Medical Association*

INFORMATION

Physician Rights to Staff Membership

TWO RELATED QUESTIONS sometimes raised amongst hospital administrators concern (a) whether license to practice medicine is the sole prerequisite to the right to membership on the staff of a public hospital, and (b) whether the hospital board has power to deny reappointment to a member of the staff on the ground of clinical incompetence or failure to abide by reasonable rules.

The ruling of an Illinois court in a recent case is pertinent:

Dr. Jack Dayan received his medical education at the University of Mexico City. He interned at St. Joseph's Hospital in Kansas City, Missouri, took the Illinois medical examination in 1952, and was licensed to practice in that state. Commencing practice in Wood River, Illinois, in 1952, he was admitted as an associate member of the medical staff of Wood River Township Hospital—a tax-supported public hospital whose governing board is appointed by the county judge.

Dr. Dayan reapplied for appointment to the staff in 1956 as in previous years. His application was denied. He obtained a temporary injunction restraining the hospital board from denying him use of the facilities pending a hearing before the board.

The hospital board required the medical staff to give reasons for its actions. Fourteen specific charges were made by the medical staff. The board gave notice of a hearing to Dr. Dayan and supplied him with a copy of the charges. Hearings were held and extensive testimony taken. Following the hearings, the board, by roll call, voted that 13 of the charges had been substantiated and continued to deny him appointment to the medical staff.

Then, upon application by the board, the court dissolved the temporary injunction.

Dr. Dayan appealed this decision.

The opinion of the court did not recite the specific charges. However, the opinion did state that Dr. Dayan contended that the action of the hospital board in concluding that he did not "measure up

to the necessary standard of professional competence" was arbitrary and capricious and was motivated by professional jealousy and personal resentment.

In answer to this contention, the court said it had reviewed the record of the hearing and that Dr. Dayan had been given "the fullest latitude" to present his case to refute the charges. It recognized that portions of the adverse testimony were based on personal resentment and professional jealousy but that "there was also calm, objective appraisal of plaintiff's clinical record which found him wanting."

Dr. Dayan also contended that by virtue of his appointment to the staff of a public hospital and his obtaining of a license to practice medicine from the state, he acquired a right or privilege which could not be taken away from him in punishment for violation of hospital rules.

The court, in answer to this contention, made the following points:

1. The licensing of a physician by the State of Illinois gives no absolute right to membership on the medical staff of a public hospital. The granting of the privilege of staff membership is vested by law in the hospital board acting in accordance with fair rules and regulations. Licensing by the state may be a prerequisite to staff membership. It is not the only condition.

2. Since hospital boards have the right and duty to safeguard the interests of the institution and the public, they are vested with "regulated discretion" in the appointment and reappointment of doctors to the medical staff. They have the power to refuse membership on the grounds of clinical incompetence or failure to abide by reasonable rules, or both.

The court observed that the proper functioning of a hospital depends upon the integrity and fairness of the active staff and that public interest dictates "this type of continuing supervision and control of the licensed practitioner."

"The suggested evils of the 'oligarchy' of the active staff," the court said, "leave less to fear than the alternative prospect of potential public harm arising from unlimited access to hospital facilities by licensed physicians without regard to clinical ability."

It is reassuring to have a court so cogently restate the authority of the hospital board and medical staff in the matter of appointment to staff membership to be based upon the solid rock of right and duty to safeguard the interests of the institution and the public. When the public interest is protected, so too is the best interest of the medical profession.

Dayan vs. The Wood River Township Hospital, 152 N.E. (2d) 205, 18 Ill. App. 2d 263 (1958).

NEWS & NOTES

NATIONAL • STATE • COUNTY

KERN

Dr. DeWitt Boyd, formerly medical director for the Los Angeles City Health Department, has accepted appointment as health officer for Kern County. He succeeds Dr. William C. Buss who resigned last spring but continued in the job until a replacement could be found.

Dr. Boyd served as acting health officer of Kern County for almost a year in 1947-48 before entering the army.

LOS ANGELES

Dr. Leo Teppner recently succeeded Dr. DeWitt T. Boyd as medical director of the Los Angeles City Health Department. Dr. Teppner will have charge of the department's communicable disease control, maternal, child health and laboratory divisions.

Dr. Boyd resigned to become health officer of Kern County.

Dr. Emmett Hightower, who has served the department as central district health officer for two years, was appointed to the newly created position of director of health services for the city.

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Dr. Thomas H. Sternberg, UCLA Medical Center, and **Dr. M. Digby Leigh**, who is associated with the Children's Hospital Society of Los Angeles, have been awarded grants in aid of research by the Squibb Institute for Medical Research. Dr. Sternberg's study is in the field of dermatology and Dr. Leigh's in pulmonary functions.

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Dr. Roy F. Perkin of Alhambra and **Dr. Donald W. Petit** were elected president and first vice-president, respectively, of the Diabetes Association of Southern California at the organization's annual meeting.

MENDOCINO

Dr. C. R. Kroeger, who organized the Mendocino County Department of Health in 1950 and served as health officer from then until 1957, when he resigned to recover from the effects of injuries received in an automobile accident, now has returned to his former position. He succeeds Dr. C. Henry Murphy, who resigned to become a member of the staff of the California Department of Public Health.

SAN FRANCISCO

An arthritis evaluation center, partly supported by a grant of \$93,412 from the National Foundation, is to be added to the present facilities at the University of California Medical Center in San Francisco for evaluation, treatment and rehabilitation of patients with arthritis, it was announced recently.

The program of which the new center is to be a part will carry forward clinical research and teaching. It will be

under the direction of Dr. Ephraim Engleman, associate clinical professor of medicine in the University of California School of Medicine.

* * *

Dr. Richard E. Brasher has been awarded a \$5,000 fellowship in chest diseases established at the University of California School of Medicine by the San Francisco Tuberculosis Association and the California Tuberculosis and Health Association.

SAN DIEGO

The 13th Annual Postgraduate Assembly, sponsored by the San Diego County General Hospital, will be held on Wednesday, November 4 and Thursday, November 5, 1959, at the hospital. The Registrar is Dr. Walter Ballard, 525 Hawthorn Street, San Diego.

SANTA CLARA

Two research fellows will spend a year at the Palo Alto Medical Research Foundation under training grants awarded by the National Institutes of Health of the U. S. Public Health Service. They are Dr. William D. McKee of Denver and Dr. F. Marin Nunez of Madrid, Spain. Both will work under the direction of Dr. Cutting B. Favour, head of the foundation's Department of Immunology. Dr. McKee, a graduate of the Harvard Medical School, will undertake a study of delayed sensitivity in humans and animals and of how allergic sensitivities are transferred from one individual to another. Dr. Marin, a graduate of the University of Madrid School of Medicine and a member of the Spanish Society of Allergy, will commence with basic research concepts of immunology and allergy leading to a special project.

GENERAL

The Radiological Society of Southern California has elected the following officers for the year 1959-1960: Chairman, James B. Irwin, M.D., San Diego; vice-chairman, Robert B. Engle, M.D., Altadena; secretary-treasurer, Joseph F. Linsman, M.D., Beverly Hills. Other members of the board of directors are Harold Tompkins, M.D., and Leo Rigler, both of Los Angeles.

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The Julia Wolfsohn Prize Award which is given annually to a Stanford University Hospital intern in recognition of outstanding work in internal medicine and neurology, was bestowed this year upon Dr. Phyllis Bailey.

HOTEL ROOMS

FOR

C.M.A. ANNUAL SESSION

The California Medical Association has no guarantee of sleeping rooms for the Annual Session in Los Angeles, February 21 to 24, unless reserved by January 15.

Please use request form on page 225

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Two-Week Rehabilitation Nursing Workshop. Daily, October 19 through 30. Seventy-five hours. Fee: \$25.00.

Neuropathology. Tuesdays and Thursdays, October 22 through December 10. Sixteen hours. Fee: \$100.00.

Aviation Medicine. Wednesday, Thursday and Friday, October 28, 29 and 30. Eighteen hours. Fee: \$65.00.

Photomicrography. Mondays, November 2 through December 7. Twelve hours. Fee: \$30.00 plus \$2.00 for manual.

Arthritis. Wednesday, November 11. Six hours. Fee: \$20.00.

Ear, Nose and Throat. Friday and Saturday, November 13 and 14. Twelve hours. Fee: \$60.00.

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

6th Annual Symposium for X-ray Technicians. Saturday and Sunday, December 5 and 6. Ten and a half hours. Fee: \$15.00, includes Saturday lunch.

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Special Announcement: A Postgraduate Course in Mexico City, in cooperation with Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina, Mexico, D. F. Instructional Staff will be drawn from the staff of the U.C.L.A. School of Medicine and the staff of the Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina. The program will include lectures and presentation of Clinical Cases in: Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. Wednesday, February 25 through Saturday, March 5, 1960.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Newer Laboratory Techniques in Clinical Chemistry (Children's Hospital). Tuesday evenings, October 20 through November 17. Fee: \$30.00.

Psychotherapy in Medical Practice. Wednesdays, October 21 through January 20, 11:00 a.m. to 5:00 p.m. Sixty hours. Fee: \$25.00.

Use of Laboratory Methods in Office Practice. Thursday through Saturday, November 5 through 7. Twenty hours. Fee: \$50.00.

11th Postgraduate Assembly in Endocrinology and Metabolism. Monday through Friday, November 9 through 13. Thirty-five hours. Fee: \$100.00, Residents \$30.00.

Gonio-Anatomy. Thursday through Saturday, November 12 through 14. Eighteen hours. Fee: \$70.00 (\$50.00 for Thursday and Friday only).

Adolescents (Children's Hospital). Saturday, November 14. Seven hours. Fee: \$12.50.

Annual Ophthalmology Conference. Wednesday through Saturday, December 2 through 5. Twenty-four hours.*

Course for Physicians in General Practice. Monday through Friday, March 7 through 11. Thirty-five hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MONTrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday. **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

The Doctor and the Family. Friday, October 16. Seven hours. Fee: \$25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: \$50.00.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: \$65.00.†

*Fees to be announced.

†Hours to be announced.

Dermatology Clinic, One-Day Symposium. Thursday, March 24. §

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16. §

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

Surgical Anatomy: Thorax, Abdomen, Pelvis. January 4 through April 13. 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1, 63 hours. Fee: \$75.00.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. *Contact:* Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, November 9 through 13. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

§Fees and hours to be announced.

*Fee to be announced.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

OCTOBER MEETINGS

PACIFIC COAST OBSTETRICAL AND GYNECOLOGICAL SOCIETY. October 21 through 24. St. Francis Hotel, San Francisco. *Contact:* Donald W. de Carle, M.D., chairman, 2000 Van Ness Avenue, San Francisco.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, St. Jude Hospital, Fullerton, October 29 and 30. *Contact:* B. L. Tesman, M.D., chairman, 1431 Fullerton Rd., Fullerton.

NOVEMBER MEETINGS

SAN DIEGO COUNTY HOSPITAL 13th Annual Postgraduate Assembly. November 4 and 5, 8:00 a.m., San Diego County Hospital. *Contact:* W. T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Ave., San Diego 3.

SAN DIEGO ACADEMY OF GENERAL PRACTICE. November 12 through 14. Hotel Riviera, Las Vegas, Nevada. *Contact:* Harold Peterson, M.D., 5950 El Cajon Blvd., San Diego 15.

PACIFIC COAST FERTILITY SOCIETY 8th Annual Meeting. November 12 through 15, Las Vegas, Nevada. *Contact:* Anah Wineberg, M.D., secretary, 3120 Webster Street, Oakland.

CALIFORNIA SANATORIUM ASSOCIATION Annual Meeting. November 14, 9:00 a.m., Santa Clara County Hospital, San Jose. *Contact:* Morton R. Manson, M.D., director, Thoracic Service, Santa Clara County Hospital, San Jose.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS—District VIII Annual Meeting. Each morning, November 15 through 21. Royal Hawaiian Hotel, Honolulu. *Contact:* Harold K. Marshall, M.D., Secretary-Treasurer, District VIII, A.C.O.G., 202 Professional Building, Glendale.

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lectureship Dinner. November 20, Biltmore Hotel, Los Angeles. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State Street, Los Angeles 33.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach, December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

AMERICAN COLLEGE OF CHEST PHYSICIANS Fifth Annual Postgraduate Course on Diseases of the Chest. December 7 through 11, Ambassador Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, Executive Director, 112 East Chestnut St., Chicago 11, Ill.

1960 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Fourth Annual Midwinter Symposium. January 13, 9:00 a.m. Statler-Hilton Hotel. *Contact:* Walter S. Graf, M.D., Chairman, Professional Symposium Committee, Los Angeles County Heart Association, 660 So. Western Avenue, Los Angeles 5.

ORANGE COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease. January 23, 8:30 a.m. to 5:30 p.m. Gourmet Restaurant, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, Executive Director, P. O. Box 1704, Santa Ana, Kimberly 7-5976.

WESTERN ASSOCIATION OF PHYSICIANS. January 27 through 29, Carmel, California. *Contact:* Wade Volwiler, M.D., secretary, Department of Medicine, University of Washington, Seattle 5.

FRESNO COUNTY HEART ASSOCIATION Central California Eighth Annual Physicians Symposium. January 29, 8:30 a.m. to 5:30 p.m. Elks Club, Kings Canyon Road, Fresno. *Contact:* Max S. Millar, M.D., Chairman, Professional Services Committee, Fresno County Heart Association, 329 No. Van Ness, Fresno 1.

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7. Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

AMERICAN SOCIETY OF INTERNAL MEDICINE. April 1 through 3, Mark Hopkins Hotel, San Francisco. *Contact:* Mr. Robert L. Richards, executive director, 350 Post Street, San Francisco 8.

AMERICAN COLLEGE OF PHYSICIANS Annual Meeting, April 4 through 9, Mark Hopkins and Fairmont Hotels, San Francisco. *Contact:* E. R. Loveland, executive secretary, 4200 Pine Street, Philadelphia 4.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION Annual Convention. April 23 and 24, Claremont Hotel, Berkeley. *Contact:* Mrs. Anne Reece, President CMAA, 1837 So. Indiana St., Porterville, California.

HAWAII MEDICAL ASSOCIATION Annual Meeting. April 28 through May 1. *Contact:* Miss Lee McCaslin, executive secretary, 510 S. Beretania, Honolulu 13.

PAN AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11, Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

NATIONAL TUBERCULOSIS ASSOCIATION—AMERICAN TRUDEAU SOCIETY Annual Meeting. May 16 through 19, Statler Hilton and Biltmore Hotels, Los Angeles. *Contact:* Mr. Sherman Asche, general chairman, Annual Meeting Committee, P. O. Box 4037, Santa Barbara.

AMERICAN COLLEGE OF NUTRITION 1960 Annual Convention. May 20 through 22, Huntington Sheraton Hotel, Pasadena. *Contact:* Donald B. Haynie, executive secretary, 10651 West Pico Blvd., Los Angeles 64.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 23 through 25, Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5, Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.



THE PHYSICIAN'S *Bookshelf*

CANCER—Diagnosis and Treatment—Edited by John B. Field, M.D., Ph.D., Assistant Clinical Professor of Medicine, University of Southern California School of Medicine, Los Angeles, California; with 28 Contributors. Little, Brown & Company, Boston 6, 1959. 796 pages, \$18.50.

This volume represents an effort to cover the field of diagnosis and treatment of cancer in a comprehensive fashion. There are 20 chapters, 15 of which are devoted to cancer and allied diseases occurring in anatomical portions of the body and systems. There is an excellent chapter on the history of diagnosis and treatment of cancer concluding with a general summary of the problem as it confronts the physician of today. There are chapters dealing with Medical Care of the Patient, Cancer in Children, Chemotherapy and Radiotherapy.

There are 28 contributors, including co-authors of the various chapters. These include the names of many who are distinguished in the cancer field. Among these are Slaughter, Taylor, Haagensen, Churchill, Ochsner, Rankin, Coley and others.

The presentations are well balanced, on the whole. The standard procedures of diagnosis and treatment are delineated. In certain chapters the authors stress individual points of view which may not have general acceptance.

The work adds nothing to the existing knowledge of cancer. It represents a compendium of current knowledge and presents much valuable information in a single volume. The bibliography is fairly extensive.

It will serve as a useful, ready reference for those whose knowledge of the cancer field is not detailed.

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TOTAL SURGICAL MANAGEMENT (Modern Surgical Monographs)—Editor-in-Chief: I. S. Raydin, M.D.; Consulting Editor: Richard H. Orr, M.D.).—James D. Hardy, M.S., M.D., F.A.C.S., Professor and Chairman, Department of Surgery, University of Mississippi Medical Center, Jackson, Mississippi. Grune & Stratton, New York, 1959. 292 pages, \$9.50.

Many people are interested in the brief exposition of standard methods of pre-operative, and post-operative care. This short book summarizes the procedures suggested and employed in a large surgical service at Mississippi. There is little general discussion of the problems involved. It is didactic, cook book in style, short, and clearly written. It fails, however, to give the reader the type of understanding necessary for biological variations which occur in any pre-operative, operative, or postoperative state.

For the value contained I would much prefer Dr. Hardy's other excellent book on the Pathophysiology of Surgery. This book is for interns or house officers who wish to rapidly learn a set of routine orders and methods which will enable them to give the patient care without understanding.

As compared with other similar books on the market it is good, but the reviewer finds too little of value in the book to recommend it over the usual hospital outlines afforded by every good surgical service.

PATHOPHYSIOLOGY IN SURGERY—James D. Hardy, M.S. (Chem.), M.D., F.A.C.S., Professor and Chairman, Department of Surgery, and Director of Surgical Research, University of Mississippi Medical Center; Surgeon-in-Chief, Hospital of the University of Mississippi; Chief Surgical Consultant, Jackson Veterans Hospital and Mississippi Tuberculosis Sanatorium. The Williams & Wilkins Company, Baltimore, Maryland, 1958. 704 pages, \$19.00.

This is the fourth or fifth book from the surgical pen of James Hardy, Professor of Surgery at the University of Mississippi. He is undoubtedly one of the most prolific authors on surgical principles today. He has a knack for synthesizing large amounts of knowledge into an understandable body of usable information. His style is clear, comprehensible, and brief. His skills are, therefore, particularly suited to a work on the pathophysiology of surgery.

There are two general ways of looking at surgery. One is to regard it as a highly technical discipline in which the experienced operator should always know and be certain of what he is doing. This type of knowledge affords the competent surgeon a generous measure of success without the necessity of thinking, but it is essentially a static and retrogressive approach to surgical advance. The other approach to surgery is to regard it as an ancillary therapeutic arm to medicine founded upon changing and advancing scientific principles. This approach requires a solid and basic understanding of the nature of disease, is flexible and imaginative in its scope. Dr. Hardy's book is an effort to impart the latter type of thinking and approach to the art of surgery.

The book is well done, covers a broad variety of general surgical topics ranging from the usual burn, fluid and electrolyte problems to those of the complicated pathophysiology of the liver and adrenals. The material is well organized and nicely presented. The book should appeal to students, house physicians, and surgeons desiring a physiological approach to their discipline. It is heartily recommended by the reviewer.

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VICTOR RICHARDS

SHAKESPEARE AND MEDICINE—by R. R. Simpson, M.B., Ch.B., F.R.C.S., F.R.C.S.Ed. E. & S. Livingstone Ltd., Edinburgh and London, 1959. Distributed in the United States by The Williams & Wilkins Co., Baltimore 2, Maryland. 267 pages, \$6.00.

One is surprised by the author's statement in the introduction (p. 1) that very little has been written on medical allusions in Shakespeare's plays. Be this as it may, Dr. Simpson has certainly done a thorough job. After a general discussion of Shakespeare's knowledge of Elizabethan medicine there are systematic chapters on special phases of the subject such as Shakespeare on drugs and poisons, on wounds, on eyes, on pregnancy and many more. The material is richly documented with quotations but the whole subject is woven into a coordinated whole. The work seems definitive. There are some interesting illustrations and an index.

ARTHUR L. BLOOMFIELD, M.D.

THERAPEUTIC ELECTRICITY AND ULTRAVIOLET RADIATION—Volume IV of Physical Medicine Library—Edited by Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine. Elizabeth Licht, Publisher, 360 Fountain Street, New Haven, Connecticut, 1959. 373 pages, \$10.00.

This book is a continuation of the series of excellent books by the present editor for a Physical Medicine Library. The book is divided into two parts, "Therapeutic Electricity," and "Ultraviolet Radiation." By therapeutic electricity, the author includes clinical electrical stimulation, iontophoresis, and a chapter on "electro-sleep therapy," by a Russian physician, Dr. Obrosoff.

The use of iontophoresis or "ion transfer," is probably unknown to most physicians. This involves the use of electrical current to "drive in" therapeutic medicinal ions for certain conditions of local infection, skin disease, or analgesics. The chapter on electro-sleep therapy is an interesting one, but this method of treatment for psychiatric patients has been little used in this country and the particular chapter does not stimulate one to try its use. There is probably the most extensive bibliography of any book on the above subjects but actually little new clinical information is given under the stimulation and iontophoresis chapters that cannot be found in any standard text on physical medicine.

The section on ultraviolet radiation presents an excellent review in a very thorough fashion, but again, offers little which cannot be found in any other standard text on Physical Medicine for the use of the clinician. It does list the most inclusive bibliography that this reviewer has ever seen on the subject.

This book is an excellent reference text and should be placed in medical libraries but would not have much value for the average practicing physician other than those men who are physiatrists or otherwise involved in the practice of physical medicine.

S. MALVERN DORINSON, M.D.

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A DOCTOR DISCUSSES THE MENOPAUSE—G. Lombard Kelly, A.B., B.S.Med., M.D., President Emeritus and formerly Professor of Anatomy, Medical College of Georgia, formerly Research Associate in Anatomy, Cornell University Medical School, member American Association of Anatomists; contributor to scientific journals in the fields of Physiology and Endocrinology. The Budlong Press, 5428 N. Virginia Avenue, Chicago 25, Ill., 1959. 90 pages. Patient price: \$1.50.

This is a small paper-bound booklet of some 90 pages written expressly as an aid to the physician in explaining the facts and implications of the menopause to his women patients. The first six chapters are devoted to the anatomy and physiology of the organs involved and are brief and easily understandable. Surprisingly, there are several statements of supposed facts which are incorrect, such as that the right and left ovaries alternate in ovulating, and that sexual response is dependent upon the presence of the female sex hormone, and the implication the deficiencies in sexual response can be remedied by administering hormones. However, these statements are of comparatively minor importance with respect to the overall presentation for lay consumption.

Generally, the information and advice are sound and well expressed. There are chapters on the evils of self-medication, good mental health, feminine hygiene, preservation of figure and good mental health, the early detection of genital cancer, and sexual and other adjustments that must be made at this time of life, and in old age. The advice regarding sex at and after the menopause is especially good.

The publishers state that they would be happy to send a desk copy to any physician who requests it. It is the opinion of your reviewer that this booklet could be used by physicians to great advantage on many occasions when dealing with menopausal patients because it is certainly true that much of the emotional upset and physical suffering seen at this time of life is based upon ignorance of the facts and their implications.

DANIEL G. MORTON, M.D.

* * *

THE DOCTOR BUSINESS—Richard Carter. Publicity Department, Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1958. 283 pages, \$4.00.

This book is a well-written and cleverly designed exposition of a point of view advocated principally by the more radical elements of our society. The author admits his prejudice against the American Medical Association and medical organizations in general and proceeds to belabor them whenever possible. He is an artist in quoting out of context and expanding a grain of truth into a wheat field of distortion.

A portion of this tendency may arise from a lack of understanding but the pattern is so general that it is difficult to escape the conclusion that it represents intentional distortion. The occasional complimentary reference to the American Medical Association or some other medical organization has the appearance of an effort to establish an aura of objectivity.

The jacket and Appendix E indicate that the author has engaged in "extensive research" into the economic aspects of medical care. His statements establish the process of retrospective research designed to support conclusions drawn in advance and not based upon the scientific method.

The book is a compendium of the assaults upon and the arguments traditionally used against organized medicine. The arrogance of the author is surprising.

This rehash of clichés, part truths, distortions and misrepresentations adds little to our knowledge of the methods of those who would remodel the distribution of medical care according to their own ideas, regardless of the effect it might have upon the quality of that medical care. It has the value of having assembled in one volume substantially all the arguments which have been or could be used against the system which has produced the best medical care the world has ever known.

* * *

SCHIZOPHRENIA—An Integrated Approach—Edited by Alfred Auerback, M.D., Assistant Clinical Professor of Psychiatry, University of California School of Medicine, San Francisco; Speaker, Assembly of District Branches, American Psychiatric Association. The Ronald Press Company, 15 East 26th Street, New York 10, N. Y., 1959. 224 pages, \$5.50.

This book consists of a collection of individual presentations by outstanding men on one or another aspect of schizophrenia. There are chapters covering neurophysiological contributions to the understanding of schizophrenia, biochemical investigations in schizophrenia, psychological and sociological factors in schizophrenia, and various aspects of the treatment of schizophrenia.

Schizophrenia still remains one of the greatest medical challenges today—and there is no pretense in this book of having the answers. Rather, the broad avenues of investigation that characterize present-day research in schizophrenia are presented in a way that should be of interest to the members of the various disciplines who are studying this disease.

N. Q. BRILL, M.D.

SQUINT AND ALLIED CONDITIONS—George P. Guihor, M.D., D.D.S., Fellow, American Academy of Ophthalmology, American Academy of Cerebral Palsy, American Academy of Neurology; Associate Attending Ophthalmologist, Children's Memorial Hospital and St. Luke's Presbyterian Hospital, Chicago. Grune & Stratton, New York, 1959. 356 pages, \$11.50.

This book presents the author's rather personalized views, much of it in a conversational manner, based upon his own considerable experience managing patients with squint.

One finds here a full discussion of the prolonged use of atropine, and the utilization of prisms in the management of strabismus, which the author has long championed.

The section on objective examination, particularly with reference to the cover test procedures, is excellent.

The section on sensory anomalies leaves something to be desired. The discussion of motor anomalies is, in large part, based on neuro-ophthalmological cases, because of the author's large experience with spastics.

This book consolidates the author's views, heretofore found in many separate publications, and so long as the reader is cognizant that these views are not universally accepted, it offers some fruitful pearls, and interesting reading.

ARTHUR JAMPOLSKY, M.D.

* * *

ADVANCES IN PSYCHIATRY—Recent Developments in Interpersonal Relations—Edited and with an Introduction by Mabel Blake Cohen, M.D. W. W. Norton & Company, Inc., 101 Poplar Street, Scranton 9, Pa., 1959. 314 pages, \$4.95.

The book consists of a collection of some of the outstanding articles which appeared in the journal *Psychiatry* in the last 20 years. It emphasizes the recent contributions of the social sciences to psychiatry, particularly the concept of interaction between people and its relationship to individual drives, motivations, and conflicts as initially formulated by H. S. Sullivan. The emphasis is more on ego psychology than on unconscious libidinal forces in personality development and emotional disorders.

The book, in the words of the editor, begins with a section on values and philosophy including some consideration of problems of psychiatric research. It then considers a variety of aspects of psychiatry and culture, including some discussion of the psychiatric and social problems of the mental hospital, and of the ways in which the attitudes of our culture toward mental illness complicate the rehabilitation of those who are or have been ill. A special section is devoted to schizophrenia and another to the practical and theoretical aspects of therapy.

The approach is an eclectic one and will be of interest to physicians and social scientists interested in the problem of mental illness.

NORMAN Q. BRILL, M.D.

* * *

THE NATURE OF RETIREMENT—Elon H. Moore, Ph.D., Late Professor of Sociology and Head of the Department of Sociology, University of Oregon, Eugene; Edited by Gordon F. Strehl, Ph.D., Professor of Sociology and Director, Study of Occupational Retirement, Cornell University, Ithaca. The Macmillan Company, New York, 1959. 217 pages, \$4.50.

How are we approaching that inevitable time when age will have caught up and a change of pace and activity is either forced upon us or chosen as a challenging new adventure in living? Is retirement something to be dreaded, resisted and resented or can it be happy and useful as were the former periods of life, each of which has meant a more or less radical change from the preceding episode?

The Nature of Retirement by Professor Moore is a useful and worthwhile contribution to the growing literature on aging. Based upon the actual experience and observations of hundreds of retirees, the book contains much practical information about the problems to be faced, anticipated and planned for. Many questions are answered from these collective experiences. If a bias is expressed it is an optimistic one. The author is convinced that these later years may not only be happy ones, but useful and rewarding to both the individual involved and the community in which he lives. The question is raised as to whether retirement may not come too late rather than too early for many. It is emphasized that retirement should not necessarily mean an end to all useful activity though a change in pace and fewer exacting responsibilities are in order. Much will depend upon the attitude of the one retiring and his preparation.

This is neither a welfare nor a medical book. Though written by a professional social scientist, it is free from annoying technical vocabulary. The style is simple and adjusted to all readers. It is a practical, stimulating, thought-provoking review well worth consideration by all who are growing older—and who isn't?

HOWARD F. WEST, M.D.

* * *

PEDIATRIC NEUROLOGY—Stanley S. Lamm, M.D., Clinical Professor of Pediatrics, State University of New York, College of Medicine at New York City; Neurological Consultant, Pediatric Dept. Kings County Hospital (State Univ. Div.), Brooklyn, N. Y.; formerly Instructor in Neurology, Long Island College of Medicine, Brooklyn, N. Y.; Director, Cerebral Palsy Clinic, Long Island College Hospital, Brooklyn, N. Y. Landsberger Medical Books, Inc., 51 East 42nd Street, New York, N. Y., 1959. 495 pages, \$12.90.

The title of this book is amply descriptive of its content. It is apparently intended primarily for the pediatrician, and presents in rather more detail than in the ordinary textbook of neurology those types of neurological disease more prevalent in the child. Thus developmental defects, hereditary diseases, cerebral palsy and infections of the nervous system are treated in some detail. The devoting of a scant 25 pages to the convulsive disorders seems rather meager, but the essentials are covered. The various entities are presented in a clear and understandable style. Illustrations are few and the standard of reproduction leaves something to be desired. The book can be recommended to the pediatrician who is thus spared searching through the large bulk of irrelevant material in the standard texts, but the specialist in neurology will find little not covered in texts already in his possession.

HENRY NEWMAN, M.D.

* * *

J. M. CHARCOT—1825-1893—HIS LIFE—HIS WORK—Georges Guillain, M.D., Membre de L'Institut; Membre de L'Académie de Médecine. Edited and translated by Pearce Bailey, Ph.D., M.D., Director, National Institute of Neurological Diseases and Blindness; Membre Honoraire a Titre Etranger de la Société Française de Neurologie. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1959. 202 pages, \$7.00.

Pearce Bailey has done American medicine a good service by translating so well Guillain's Life and Work of Charcot. Charcot was to all intents the founder of modern neurology and the account of his activities at the fabulous Salpêtrière is intensely interesting. Although he also resorted to anatomical studies Charcot was essentially a great observer and clinician. His influence on his great pupils and followers is traced in interesting fashion. The second half of the book deals systematically with the various aspects of Charcot's scientific work.

ARTHUR L. BLOOMFIELD, M.D.

TEXTBOOK OF PEDIATRICS—Seventh Edition—Edited by Waldo E. Nelson, M.D., D.Sc., Professor of Pediatrics, Temple University School of Medicine; Medical Director of Saint Christopher's Hospital for Children. With the collaboration of 81 Contributors. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1959. 1462 pages, \$16.50.

In these days of intensive and large-scale research in the clinical and ancillary fields of medicine, obsolescence poses a constant threat to textbooks which have any pretensions to thorough coverage, and today adequate revisions are required every few years. While most of the writing is done by a corps of specialists, the success or failure of such a project depends on a directing head, who selects the contributors, guides their efforts, prunes their redundancies and bullies them into meeting their deadlines.

The present, seventh, edition of Nelson's Textbook of Pediatrics, a standard now for over 25 years, reflects the skill and effectiveness of its indefatigable editor, Dr. Nelson.

The reader who wishes to know whether to invest in the new edition, the first since 1954, can be assured that it has been completely rewritten and not merely patched up from the Sixth, and that a very large amount of new material has been added. There are completely new chapters on clinical appraisal of infants and children, parenteral fluid therapy, drug therapy, anesthesia, prenatal factors in diseases of children, the newborn infant, tuberculosis, rickettsial diseases, mycotic infections, the respiratory tract, the nervous system, convulsive disorders, cerebral palsy and orthopedic pediatrics; and new or radically revised sections on tropical eosinophilia, kala-azar, cirrhosis of the liver in Indian children, pulmonary ventilation, mesenchymal diseases (including systemic lupus erythematosus), behavior problems with brain damage, and the relation of the physician to the child with a handicap. There is an expansion of the discussion of inborn errors of metabolism; a brief but illuminating introduction to modern heart surgery; and, among various other changes, an ingenious and useful revision of Dr. John Anderson's chapter on poisons. Here, the poisons are first grouped into some 78 categories, which are then followed by a list of some 464 (my count) individual poisons, each of which is referred by number to the first section for a description of symptomatology and treatment. The appendix, containing lists of normal blood and cerebrospinal fluid values, sodium and potassium contents of fluid foods; mineral and caloric composition of foods; diet calculation; elimination diets; conversion tables for weights and temperatures, have been, where necessary, revised and expanded.

It is customary for a book review to contain some adverse criticism, if only to show that the reviewer has examined his victim with care. Actually, I have encountered very few serious omissions. The Wintrobe indices of red cell size and hemoglobin content and concentration are not mentioned. The danger of penicillin sensitization, to which several recent reports have alerted us, is not mentioned. The changes in cerebrospinal fluid in disease are not too well described (a really good table of these might be a promising project for the next edition: I know of no really comprehensive one in any pediatric text).

The illustrations, though not many, are good. Particularly worth mention is the colored plate in the new chapter on Mesenchymal Diseases. The index, as in previous editions, is excellent, with the main reference in bold-face.

On the whole, this is an outstanding job, placing Nelson's Pediatrics in the forefront of pediatric texts in English.

HAROLD K. FABER, M.D.

FRACTURE SURGERY—A Textbook of Common Fractures—Henry Milch, M.D., Emeritus Attending and Consulting Orthopedic Surgeon, Hospital for Joint Diseases, New York; and Robert Austin Milch, M.D., Assistant Resident Surgeon, Peter Bent Brigham Hospital, Boston. With a chapter on anesthesia by Herbert D. Dubovsky, M.D., director of Anesthesiology, Easton Hospital, Easton, Pennsylvania. A Hoeber-Harper Book, Medical Book Department of Harper & Brothers, 49 East Thirty-third Street, New York 16, N. Y., 1959. 470 pages, with 671 illustrations, \$17.50.

The senior author, who is now emeritus attending and consulting orthopedic surgeon, Hospital for Joint Diseases, New York, has been contributing to the literature of orthopedic surgery for many decades. His articles are well known to orthopedic surgeons and for the most part touch upon quite specialized subjects. The preface to this book asserts that, "This volume is particularly planned for the medical student and the surgical house officer, there at the beginning of their study of fractures, as well as the general practitioner." In spite of this statement the authors have drawn heavily on the senior author's previously published articles on specialized orthopedic subjects. For example, in the chapter on fractures of the leg four pages are used to describe an operation the senior author once published on the rare "Non union of the tibia with segmental defect." It seems unlikely that medical students, house officers or general practitioners need or desire this type of highly specialized information. Furthermore, it is difficult to understand the criteria by which subject matter was selected for inclusion in or exclusion from the book. For example, epiphyseal separation of the lower end of the humerus, a condition so rare that it might be called an orthopedic curiosity, is discussed along with such other rarities as fractures of the acromion and avulsion fractures of the glenoid while the commonly occurring and very important acromio clavicular separations are not mentioned nor is the subject of fusion for unstable fracture dislocations of the cervical spine.

The book contains many statements with which most orthopedic surgeons would disagree. Two examples will be cited. In speaking of forearm bone fractures in growing children, "In general operation should be avoided provided that *end to end apposition* can be attained. . . ." It is now well known that end to end apposition is not at all necessary for perfect healing and is never an indication for open reduction. On the subject of fracture dislocations of the ankle (both malleoli broken above superior surface of the astragalus), "when reduction has been achieved a short leg cast should be applied and left in place for at least six weeks. . . ." It is impossible to maintain stable reduction with a short cast which may very well rotate on the leg carrying foot and malleoli along with it. Furthermore *safe solid union* of the malleoli takes much longer than six weeks.

In their endeavor to cover all methods of treatment the authors at times leave one in doubt as to just which method they have found most useful. It is difficult to get a strong recommendation on just how they actually proceed in a given case.

It is refreshing and modernistic to find the subjects of artery, nerve and tendon suture concisely and neatly covered in a book on fracture surgery. How apropos! For who sees more of these injuries than he who treats fractures? The chapters on axial malalignments and slipped femoral epiphysis are very good indeed and recommended reading for orthopedic residents.

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Cerebral Complications Incurred During Pregnancy and the Puerperium

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• In a statistical study of maternal mortality cases in Franklin County, Ohio, with a total of 170 deaths in a ten-year period (1948-1957), there were 36 fatal cases with cerebral complications of various types. Intracranial hemorrhage was the cause of death in 17 cases; subarachnoid hemorrhage in eight; intracerebral hemorrhage in eight and subdural hemorrhage in one case. There were nine cases of intracranial tumor with fatality. In a miscellaneous group of ten "cerebral deaths" infectious processes were the cause in eight cases, including tuberculous meningitis, purulent meningitis, brain abscess, acute (cerebro-medullary) poliomyelitis, "viral" encephalitis, toxoplasmosis and tetanus.

In a smaller clinical (nonfatal) group with cerebral complications occurring during pregnancy and the puerperium, two patients with subarachnoid hemorrhages made spontaneous recovery. A diagnosis of intracerebral hemorrhage was made in three instances, in two of which operation was done and evacuation of

blood clots was accomplished. One patient recovered spontaneously from a minimal hemorrhage.

Five other persons had cerebral thrombosis, three in the third month of pregnancy and two in the immediate puerperium. All recovered, with some residual deficits.

Three patients with intracranial tumor were successfully treated surgically but with disappointing results ultimately (one case each of cerebellar medulloblastoma, cerebral astrocytoma and supratentorial meningioma).

Only when the obstetrician, neurologist and the neurosurgeon are fully aware of the signs, symptoms, and many times the rapid course of these cerebral complications of pregnancy, can there be any material lowering of the morbidity and mortality. Emphasis should be placed on the early investigation of all neurological complaints during pregnancy and the puerperium, with immediate institution of an aggressive diagnostic and therapeutic regimen.

CEREBRAL COMPLICATIONS occurring during pregnancy and the puerperium has been the subject of several reviews in recent years that have emphasized such conditions as puerperal hemiplegia, subarachnoid and intracerebral hemorrhage, tumor and abscess, leptomenigeal and cerebral infectious

processes, acute demyelinating diseases and other neurological disorders. From these reviews, it has been learned that all too frequently what appears to be minor symptoms and signs referable to the central nervous system are overlooked in pregnant patients or are thought of as "just expected to occur." Thus they are not given the attention they deserve until other more obvious or serious signs appear. As pointed out by Boshes and McBeath,⁵ this neglect is particularly likely in the case of minor

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cerebral infarctions that may occur during pregnancy and the puerperium. Later the infarcted area gives rise to seizure activity and only then is the true nature of the original episode recognized. The serious significance of meningeal symptoms consequent to subarachnoid hemorrhage has been emphasized by Cannell and Botterell⁶ and others.* This and other catastrophic intracranial lesions occurring during pregnancy and the puerperium are a challenge to neurosurgeons who ponder a reduction in the mortality and morbidity of these and other cerebral lesions. It seems worth while, therefore, to present a brief statistical analysis of fatal cases as well as a few examples of nonfatal cerebral complications personally observed.

MATERIAL

Obstetricians in Franklin County, Ohio, have a most active and discerning Maternal Mortality Study Committee which carefully reviews all cases of maternal deaths including those in which the patient died within the postpartum year. Through the courtesy and cooperation of this committee, the authors have been privileged to review and report here all deaths from 1948 through 1957 in which there were neurological complications or neurological conditions associated with pregnancy and the puerperium. In this ten-year period there were 157,654 live births and 170 maternal deaths; 36 of the maternal deaths (23 per cent) were of interest in this study (Table 1). So far as is known, there are no accurate statistics indicating the frequency of cerebral complications of nonfatal obstetrical cases. The authors, therefore, reviewed the records of all women 15 to 50 years of age in the University Hospital, Ohio State University, noting the occurrence of cerebrovascular accidents of all types and of intracranial tumors over the past ten-year period. To these have been added nonfatal clinical cases of cerebral complications of pregnancy taken from the personal files of one of us (not University Hospital cases). A total of 14 nonfatal cases was found that occurred during pregnancy and the puerperium (six months). It was soon apparent that not all cases with minor cerebral complications had been indexed and that those cases of cerebral vascular accidents occurring in the puerperium were not well cross-indexed. There will be presented, therefore, only a few examples of subarachnoid hemorrhage, puerperal hemiplegia, and intracranial tumors to emphasize the importance of thinking of these conditions when any neurological sign or symptom appears in pregnancy and the puerperium.

For this study, the records of the Franklin County Maternal Mortality Study Committee were used, tak-

TABLE 1.—Franklin County (Ohio) Maternal Mortality Study—10 Years, 1948-1957

Total live births	157,654
Total deaths	170
Deaths due to central nervous system lesions.....	36

TABLE 2.—Franklin County (Ohio) Maternal Mortality Study—10 Years, 1948-1957

Intracranial causes of death:	
Intracranial tumors	9
Intracerebral hemorrhage	8
Subarachnoid hemorrhage	8
Viral or bacterial disease	8
Miscellany	3

ing all cases in which death occurred during pregnancy or within a six-month postpartum period. These cases were divided into the following groups: Subarachnoid hemorrhage, subdural hemorrhage, intracerebral hemorrhage, intracranial tumors, and a miscellaneous group of infectious processes, head injury, etc. (Table 2).

Subarachnoid Hemorrhage

There were eight persons who died of subarachnoid hemorrhage during or shortly after pregnancy in this ten-year period from 1948 to 1957 inclusive (Table 3). The ages ranged from 22 to 42 (three each in the 20's and 30's and two in the 40's—41 and 42 years old respectively). Six of these persons had delivery at term; in one of the two the hemorrhage occurred at the eighth week and in the other in the thirty-second week of gestation. As to the six with delivery at term, one apparently had severe bleeding before going into labor and was soon comatose. Delivery was carried out with the patient in a respirator and she died two days later. In two other cases bleeding occurred about three hours postpartum, and in one each it had taken place on the third, sixth, and thirtieth postpartum day. Twins were born to one patient whose symptoms appeared about three hours postpartum. Six of these patients had had one or more previous pregnancies with a maximum of five. In the last instance there had been one abortion and four term pregnancies without previous signs of intracranial bleeding. None of these persons lived over six days after the clinical onset of subarachnoid hemorrhage. In four of the eight fatal cases death occurred within 24 hours; one patient was dead on arrival at the hospital, having lived only "a few minutes," and two each lived three days and six days respectively.

It is of some interest that one (without previous pregnancies) had had an acute subarachnoid hemorrhage 18 months before, and bilateral carotid angiography and ventriculography at that time showed no abnormalities. Unfortunately the vertebral-basilar arterial system had not been visualized

*References 8, 9, 11-18, 20-22, 24-26, 28, 29.

TABLE 3.—*Subarachnoid Hemorrhage, Franklin County (Ohio) Maternal Mortality Study—1948-1957 Inclusive*

Case	Age	Previous Pregnancies	Onset: Stage of Pregnancy	Period of Survival	Delivered	Previous S.A.H.	Diagnosis	Comments
1	22	0	8 weeks	6 days	No	0	S.A.H.	Negative angio. and ventric. No autopsy.
2	31	3	Term and 3 P.P.D.	1 day	Yes	0	S.A.H.	L.P., no other tests. No autopsy.
3	32	4	Term and a few hours	6 days	Yes. Twins	0	S.A.H., carotid aneurysm	L.P., angio., cranio. Clipped aneurysm. Autopsy.
4	27	0	Term—3 days	3 days ante- and 1 P.P.D.	Yes after S.A.H.	18 mo. previous	S.A.H.	L.P. negative angio. 18 mos. previous. Autopsy.
5	42	5	32 weeks	5 hours	Cesarean section	0	S.A.H.	L.P. only
6	32	2	Term and 3 hours	3 days	Yes	0	S.A.H.	L.P. only
7	41	1	Term and 1 day	1 day	Yes. 1 day S.A.H. in respirator	0	S.A.H.	L.P. only
8	24	5 (1 abortion, days 4 term)	Term and 30 days	Few hours		0	S.A.H. aneurysm R.I.C.	Dead on arrival at hospital. Autopsy.
Abbreviations: S.A.H.=Subarachnoid hemorrhage L.P.=Lumbar puncture R.I.C.=Right internal carotid Angio.=Angiography Ventric.=Ventriculography Cranio.=Craniotomy P.P.D.=Postpartum days								

TABLE 4.—*Intracerebral Hemorrhage, Franklin County (Ohio) Maternal Mortality Study*

Case	Age	Onset		Lived	Operation	Autopsy	Location of Hemorrhage
		Gestation	Postpartum				
9	29	Term	Undelivered	14 days	.....	Yes	Intracerebral*
10	32	Term	Undelivered	18 hours	.....	Yes	Intracerebral†
11	20	6 months	Undelivered	12 hours	Yes	Yes	Intracranial, right frontal lobe‡
12	40	Term	1 day	14 days	Yes	Yes	Intracerebral, right frontal lobe
13	34	Term	.....	.....	.....	Yes	Intrapontine and slight subarachnoid
14	40	Term	2 hours	14 hours	.....	Yes	Intrapontine
15	22	4-5 months	Undelivered	8 hours	.....	Yes	Intrapontine
36	36	7 days postpartum	7 days postpartum	13 hours	Yes	Yes	Right parietotemporal
*Eclampsia. †Pre-eclampsia. ‡Also, necrosis of hypophysis.							

nor had an interval angiographic study been performed when arterial spasm might have been absent and permitted a more accurate vascular survey.

The patient who died on the sixth posthemorrhage day was found to have a single aneurysm which was visualized angiographically and clipped intracranially. It may be that in that case the interval from the onset of the hemorrhage at 11 hours postpartum to the third postpartum day when angiography was performed was too long, although usually not considered to be so. This incident occurred before hypothermia was being used in Franklin County Hospitals.

The symptoms and signs of subarachnoid hem-

orrhage in the present series in no way deviated from those observed in other patients—headache and head pains, nausea, vomiting, stiffness of the neck, hemiplegia (in three cases) and bloody cerebrospinal fluid disclosed by lumbar puncture. It is unfortunate that more of the patients were not studied both by angiography and autopsy. In the absence of either diagnostic measure it may be presumed that in all cases the subarachnoid hemorrhages were due to rupture of an intracranial aneurysm in the circle of Willis or its immediate branches. Of course, this conclusion may or may not be correct in view of the known bleeding tendencies during pregnancy. If this assumption is true, however, it would appear

TABLE 5.—*Intracranial Tumors, Franklin County (Ohio) Maternal Mortality Study—10 Years, 1948-1957*

Case	Age	Onset	Diagnosis	Course and Procedures
17	23	1 hour postpartum	Parietal cystic glioma	One general seizure with rapid progression (2 hours) to coma and death
18	15	7½ months pregnancy	Intraventricular glioblastoma	H.A. progressed P.P., cranio. 15th P.P.D., death 15th P.O.D.
19	21	3 weeks postpartum	Parietal cystic astrocytoma	H.A., N. and V., L.P. and N.E. negative 5 days P.P., 19 days P.P. general seizures and apnea—death 24 hours later.
33	17	1 month of pregnancy	Temporal astrocytoma grade IV	N. and V. 1st month, right hemiparesis 1 month prepartum, hemiplegia by 3 weeks P.P., P.E.G. and cranio. Death 1 day postoperative.
34	28	1st month of pregnancy	Temporal astrocytoma grade II	Pre-eclampsia, dead fetus with induced labor. H.A. 2 weeks, cranio. with multiple re-exploration for wound infection.
16	29	5½ months postpartum	Occipital meningioma	Blurred vision 2 days then marked lethargy, aspiration, pneumonia with immediate death.
20	28	6 weeks postpartum	Malignant meningioma temporal lobe with massive hemorrhage	Sudden H.A. followed quickly by coma; cranio. done, death in 24 hours.
21	22	32 weeks pregnancy	Malignant ependymoma fourth ventricle	H.A., blurred vision and vertigo, diagnosis made, cesarean section and 12 days later cranio. Death 36 hours postoperative.
35	23	Immediate postpartum	Malignant fourth ventricle papilloma	1947 "burr holes" for pseudo tumor, P.P. H.A., blurred vision, diplopia, 50 days P.P. cranio. and ventricisternal shunt. Death 107 days P.P.

Abbreviations:

H.A.=Headache
N. and V.=Nausea and vomiting
L.P.=Lumbar puncture

P.E.G.=Pneumoencephalogram
N.E.=Neurological examination
P.O.D.=Postoperative day

P.P.D.=Postpartum day
P.P.=Postpartum
Cranio.=Craniotomy

that subarachnoid hemorrhage in the obstetrical period is peculiarly lethal.

Intracerebral Hemorrhage

Data regarding the eight fatal cases of cerebral hemorrhage are shown in Table 4. It will be noted that there were three patients each in the third and fourth decades of life and two in the fifth (each 40 years old). In three instances of intracerebral hemorrhage, eclampsia or preeclampsia were associated factors; in one of these there was necrosis of the hypophysis. Operative drainage of intracortical blood clots was accomplished in the two noneclamptic cases, and in one eclamptic case. It seems doubtful that anything could have been done surgically for the three patients with intrapontine (brain stem) hemorrhages.

The symptoms in this group were headache, convulsion, hemiplegia and coma—as well as the preexisting and apparently causative arterial hypertension in both the eclamptic and noneclamptic cases. The course of illness was cataclysmic, being rapidly fatal except in two cases with a survival of 14 days each.

The precise cause of the intracerebral hemorrhage was not always ascertained, although in one instance a small vascular malformation was observed at the margin of a massive hemorrhage into a frontal lobe. In a review of this problem, Christensen⁷ concluded that massive intracerebral hemorrhage

occurs only consequent to alterations of vascular walls—a condition which may exist during pregnancy and the puerperium. She also pointed out that such hemorrhages (subarachnoid, intracerebral, intraventricular) frequently arise in intracerebral and intramedullary vascular malformations.

Subdural Hematoma

Subdural bleeding occurred in only one instance, in that of a nurse who in the immediate puerperium had thrombophlebitis in one lower extremity and was treated with anticoagulants (heparin and bis-hydroxycoumarin). She was very ill and had shown signs of probable pulmonary embolism for which anticoagulants seemed justifiable. Nevertheless, subdural bleeding developed and was not recognized until the patient became comatose. The pupils of her eyes soon became dilated and fixed and respiratory failure followed. Neurosurgical intervention was obviously then too late.

Intracranial Neoplasms

Intracranial tumors were the cause of death in nine instances (Table 5).^{*} There were three examples of astrocytoma (two cystic), two of glioblastoma multiforme (astrocytoma Grade IV), two of meningioma (one malignant), and one each of ep-

^{*}In addition to these the authors have personal records of two more fatal cases, one of astroblastoma and the other of a low grade astrocytoma.

TABLE 6.—*Viral and Bacterial Disease, Franklin County (Ohio) Maternal Mortality Study*

Case	Age	Onset	Diagnosis	Survival
22	16	24 weeks pregnant	Tuberculous meningitis	1 month
22a	27	4½ months pregnant	Tuberculous meningitis	12 days
24	29	5 days postpartum	Tetanus	7 days
26	38	31 weeks pregnant	Septicemia and meningitis	2 days
27	27	7 months pregnant	Cerebellar abscess from otitis media	15 days
28	37	17 days postpartum	Poliomyelitis	30 days
29	25	Term	Toxoplasmosis	41 days
30	20	26 weeks pregnant	Viral encephalitis	1 week

endymoma and malignant papilloma (both in the fourth ventricle). Two occurred in the second decades (ages 15 and 17) and seven in the third decade (21 to 29 years).

In four cases the symptoms were few and practically unnoticed during pregnancy, but once they appeared death soon followed. One of the patients died of aspirating vomitus the second day after the onset of headache and lethargy. This occurred five and a half months after a normal term pregnancy and delivery. Another patient went through pregnancy without a symptom, save for a few headaches, then three and a half weeks after delivery suddenly had headache and vomiting. The results of neurological examination and of lumbar puncture and cerebrospinal fluid examination were reported as negative. A convulsion occurred five days later followed by apnea and death in 24 hours. At autopsy a parietal cystic astrocytoma with midbrain hemorrhage was found. In another case in the sixth week postpartum a malignant meningioma, which had remained silent until then, provoked a massive intracerebral hemorrhage which rapidly brought on headache and coma. Death followed in spite of prompt neurosurgical intervention. One patient had a generalized seizure one hour postpartum and died two hours later without any known previous symptoms. In five patients of this group, the onset of symptoms, of increased intracranial pressure or catastrophic manifestations occurred postpartum, one each, "immediately," one hour, three weeks, six weeks and five and a half months after parturition. In four cases symptoms occurred during pregnancy (one patient was delivered at seven and a half months) causing spontaneous delivery in one and surgical termination (cesarean section at 32 weeks) in another. In one, headaches, nausea and vomiting began after four weeks of gestation but the pregnancy went to term with spontaneous delivery. Operation was performed three weeks postpartum when she was hemiplegic and comatose and she died on the day of operation. Headaches were attributed to preeclampsia in one

TABLE 7.—*Miscellaneous Neurological Causes of Death, Franklin County (Ohio) Maternal Mortality Study*

Case	Age	Onset	Diagnosis	Survival
25	39	3 months pregnant	Cerebral contusion	16 days
31	19	2 months pregnant	Guillain-Barré	11 days
32	25	38 days postpartum	Subdural hematoma	

patient (Case 34, Table 5) and a dead fetus was removed by induced labor. Two weeks later a temporal lobe astrocytoma was resected. Death followed several months later from infection.

Miscellaneous Group—Viral and Bacterial Infections

A group of women died each of diverse causes; data on them is summarized in Tables 6 and 7. These causes of death included infections (tuberculous meningitis, bacterial septicemia with meningitis, tetanus, cerebellar abscess, acute anterior poliomyelitis, toxoplasmosis, viral encephalitis), Guillain-Barré syndrome, anoxia (cardiac arrest) and trauma.

Nonfatal Cerebral Complications of Pregnancy And the Puerperium

Although many examples of neurological conditions present during pregnancy and the puerperium were studied, particular note was paid to only those who had apparent cerebral thrombosis, intracranial hemorrhages (subarachnoid, subdural and intracerebral bleeding) and intracranial tumors, since these conditions might lend themselves, in this present day, to some kind of definitive therapy. Pertinent data are given in Tables 8 to 11. It will be noted that there were not as many subarachnoid hemorrhages, intracerebral hemorrhages and tumors as in the fatal cases, which may be due to such factors as inadequate cross-indexing of records, the sometimes obscure nature of lesions and the tardiness in recognition of the symptoms. It should be emphasized that whereas cerebral thrombosis was not noted in the group of fatal cases, it occurred in four cases in the group of patients recovered (Table

TABLE 8.—Subarachnoid Hemorrhage—Nonfatal Cases

Case	Age	Previous Pregnancies	Onset: Stage of Pregnancy	Delivered	Previous Subarachnoid Hemorrhage	Diagnosis	Comments
1	38	0	8 hours postpartum	Yes	None	Subarachnoid hemorrhage	Complete angiogram negative; complete recovery
2	22	0	With labor	Yes	None	Subarachnoid hemorrhage and postcerebral thrombosis	Complete recovery

TABLE 9.—Intracerebral Hemorrhage—Nonfatal Cases of Cerebral Complications of Pregnancy

Case	Age	Onset	Previous Episodes	Complications	Diagnosis	Operations	Results
1	33	10 days P.P.	None	None	I.C.H. spontaneous	Angio., cranio., V.J. shunt	Hydroceph. blind
2	27	5 days P.P.	None	None	I.C.H. spontaneous	None	Recovery
3	27	With labor	None	None	A.-V. malformation	Angio., cranio.	Minimal hemiparesis

Abbreviations:

I.C.H. = Intracranial hemorrhage
Angio. = AngiographyCranio. = Craniotomy
V.J. = VentriculojugularA.V. = Arteriovenous
P.P. = Postpartum

TABLE 10.—Miscellaneous Nonfatal Cases of Cerebral Complications of Pregnancy

Case	Age	Onset	Previous Episodes	Complications	Diagnosis	Operations	Results
1	27	3 months pregnant	None	None	Cerebral thrombosis	None	Hemiparesis
2	30	3-4 hours postpartum	None	Pre-eclampsia	C.V.A. hemorrhage	None	Hemiparesis
3	27	3 months pregnant	None	None	Thrombosis internal carotid	Angiography	Mild hemiparesis
4	21	3 months pregnant	None	None	Thrombosis middle cerebral artery	Angio. and sup. cer. S. ganglionectomy	Mild hemiparesis
5	39	6 days postpartum	None	None	Cerebral thrombosis	Angiography	Mild hemiparesis
6	29	5½ months pregnant	None	None	Trauma, skull fracture, subdural hematoma	Craniotomy	Personality changes, slight aphasia, hemiparesis

Abbreviations:
Angio. = AngiographySup. Cer. S. = Superior cervical sympathetic
C.V.A. = Cerebral vascular accident

10). This suggests, therefore, the need of adequate neurological investigation of all untoward symptoms during pregnancy and the puerperium referable to the brain, including ophthalmoscopic, x-ray and electroencephalographic examinations, and, when indicated, examination of the cerebrospinal fluid, and in some cases angiography and air studies. Only when these investigations are promptly carried out can one expect to arrive at early diagnosis and appropriate therapy, and thus reduce the mortality or improve the results in the nonfatal cases.

GENERAL CONSIDERATIONS

It would appear from this study and that of Cannell and Botterell⁶ that subarachnoid hemorrhage is an extreme emergency and needs immediate neurosurgical attention. With the routine use of hypotension and hypothermia and possibly newer methods to come, it may be that it will be found that earlier

surgical intervention will reduce the mortality in this group.

Earlier diagnosis and surgical removal of intracerebral blood clots are of equal importance, and it is believed that this will eventually produce much brighter results than those recorded here.

Cerebral thrombosis is a condition which occurs all too frequently during pregnancy. This problem has been emphasized by Martin,^{19a} Martin and Sheehan,^{19b} Symonds,²⁷ Boshes and McBeath,⁵ Alpers and Palmer¹ and many others. It appears that not in all instances is this lesion due to primary arterial thrombosis. It may well represent (a) thrombosis of venous sinuses, or even (b) a retrograde embolism from the pelvic veins via the paravertebral veins of Batson³ (Martin^{19a}). This brings to light the problem of vascular wall and blood clotting changes that occur during pregnancy and the puerperium and may have a direct bearing on obstetric and puerperal thrombosis. Infection as a cause of

TABLE 11.—Intracranial Tumors—Nonfatal Cases

Case	Age	Onset	Diagnosis	Course and Procedure	Results
1	27	Labor	Cerebellar medulloblastoma	Headache and diplopia, after delivery ventriculography, subtotal excision	Poor course, downhill
2	20	4 months pregnant	Cerebellar astrocytoma grade II	Headache, lightheadedness, diplopia, vertigo, ataxia, ventriculography, craniotomy, ventriculocisternal shunt	Poor course, downhill
3	24	6 years intermittent	Sphenoidal ridge meningioma	Headache, blurred vision, no operation	No increase in symptoms, severity or frequency

cerebral venous thrombosis is not to be overlooked.

The danger in the use of anticoagulants for thrombophlebitis is well illustrated by the case in this series in which the use of bishydroxycoumarin resulted in spontaneous subdural hemorrhage that was unrecognized until coma occurred. Only then was the patient referred for neurosurgical care, too late to prevent a fatal issue. Earlier recognition of the neurological signs of clouding of the sensorium, mild hemiparesis and early papillary changes might have prevented death.

In patients with intracranial tumor a somewhat different problem is presented. Most investigators believe that the brain becomes edematous or in some way increased in volume during or immediately after pregnancy. This apparently is associated more with meningiomas^{2,30} and acoustic neurofibromas⁴ than with tumors of glial origin.^{10,22,23,25} Angiomas become engorged and are subject to thrombosis and hemorrhage. If hemorrhage occurs in or around such a tumor, the symptoms may prove to be catastrophic, as in the case of a meningioma in the "fatal" series here reported. Otherwise, the onset of symptoms may appear more gradually, requiring close and accurate observation. When recognized, appropriate neurosurgical attention must follow in this group of cases. It is now also appreciated by most neurosurgeons that patients with tumors soon develop more cerebral edema and other complications than do the nonpregnant or nonpuerperal patients. This suggests the need for further studies on cerebral edema, cerebrovascular states and electrolytic balance in the obstetrical and puerperal periods.

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NOTE: An extensive review of the literature which was a part of this presentation when it was read, has been omitted from this published version.

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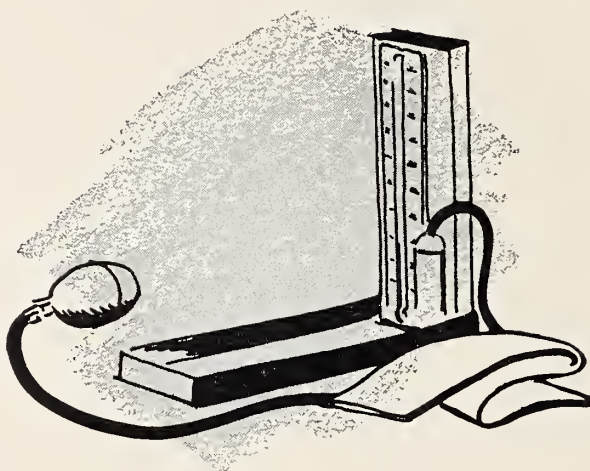
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Paget's Disease

Changes Occurring Following Treatment with Newer Hormonal Agents

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IT HAS BEEN ESTIMATED that roughly 3 to 4 per cent of the population over the age of 40 years has Paget's disease. A recent study by Pygott⁸ of the radiologically observable incidence of this disease among some 70,000 patients examined was 3.5 per cent for both sexes over the age of 45 years, which agrees quite well with previous studies at necropsy. It appears that the incidence in men alters little from 35 to 54 years, but thereafter increases rapidly up to the age of 75; in women, by contrast, the initial incidence up to 55 years is quite similar to that of men, but the increase after 55 is not as pronounced as in men. This makes Paget's disease among the most common of nonmetabolic bone diseases. Its cause is as yet unknown. Some investigators have suggested the possibility of a primary defect in blood vessels going to bone, while others believe that the increased vascularity is a secondary effect.¹⁴ Still others, such as McKusick,⁷ have proposed a general wearing out, or "abiotrophy" of connective tissue of bone as primary cause. McKusick also cited the evidence for the known familial tendency for this disease as a genetically determined predisposing factor. In any case, it has become generally accepted, as so well described by Reifenstein and Albright,¹² that the primary event in this disorder is an accelerated, localized breakdown of bone. Areas of greatest wear and tear, such as the spine, pelvis, femur and skull, seem to have the highest degree of involvement. Depending on the healing potential, there will be repair of bone in a rather irregular fashion. In a small number of patients, decided overgrowth with deformity, bowing and fractures occur. At times pressure on vital structures, such as nerves, may produce deafness or intractable pain. If a great deal of the skeleton is involved, a greatly expanded circulatory bed through bone is produced, equivalent to multiple fistulae, and a state of high output heart failure may ensue.^{9,14} In a small number of cases, sarcomatous changes take place. In Pygott's series⁸ this complication was present in only 3 of 689 cases.

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• From experience in six cases the anabolic steroid hormones, especially long-acting testosterone and estrogen preparations, are the treatment of choice in Paget's disease, as in postmenopausal osteoporosis. Details of the management of three patients over a period of four years are presented.

Roughly 4 per cent of the population, mostly persons over 40, show some evidence of Paget's disease. Only a small number of them, however, have severe manifestations requiring treatment, such as pain, bowing or fracture of the bones, pressure on nerves or heart failure. In rare cases malignant changes occur in the involved bone.

Since the cause of Paget's disease is not known, treatment in the past has been largely empirical. Reifenstein and Albright had advocated the therapeutic use of calcium, vitamin D and ascorbic acid, and, in postmenopausal women, administration of estrogens; but with fractures or immobilization, intake of calcium-containing foods, such as milk, must be restricted to avoid dangerous piling up of calcium and kidney stones, and fluids must be forced. In recent years anabolic steroid hormones, principally oral androgens and estrogens, have been employed by Gordan and others to promote bone repair, lessen bone pain and decrease urinary excretion of calcium. While these hormones probably do not arrest the disease, they seem to stabilize it and bring relief of symptoms.

More recently, Albright and Henneman demonstrated that very large doses of corticotropin (ACTH) or cortisone resulted in immediate cessation of bone pain, decrease in urinary excretion of calcium and histologic evidence of regression of the disease process. The large doses required, however, also produce dangerous side effects, such as psychosis and osteoporosis, indicating that such treatment probably should not be continued over long periods.

Since the cause of Paget's disease is unknown, treatment in the past has been largely empirical, including the use of vitamin C, vitamin D and calcium. Since many features of the initial phase of Paget's disease are similar to those of acute osteoporosis, the use of estrogen in a manner quite similar to that employed in the treatment of postmenopausal osteoporosis had been suggested by Albright and Reifenstein. This seemed to lessen the hypercalciuria and promote bone repair. In men, androgens as well as estrogens were used by Albright, as well as by others, such as Gordan³ who

observed that this treatment would lessen hypercalciuria, diminish bone pain and aid bone repair. More recently, Albright and Henneman¹ made the interesting observation that large doses of corticotropin (ACTH) and cortisone, contrary to expectation, would not increase or enhance the catabolic phase of Paget's disease but would actually lessen the hypercalciuria of bone catabolism, decrease the vascularity of bone and lessen bone pain. A decrease in the high cardiac output was observed in a series of patients so treated by Rapaport and co-workers.⁹ This observation raises some important points as to the etiology of Paget's disease, which may represent an inflammatory or collagen-like disorder of bone. Unfortunately, however, the large doses needed to effect remission of the process would also produce undesirable side effects, such as psychosis and acute osteoporosis of the normal portion of the skeleton, so that prolonged treatment is not feasible.

The anabolic steroids, especially the more recently introduced long-acting combinations of androgens and estrogens, remain, then, in the author's experience, the most effective and practical agents in the treatment of this disease. Results of such treatment in terms of clinical improvement, chemical change and roentgenographically observable change are detailed below. The implications of some of these findings with regard to calcium needs of the adult skeleton, to the dangers of hypercalcemia, hypercalciuria and renal stone formation, and to the prevention of these hazards, are likewise discussed.

PATHOLOGIC PHYSIOLOGY

Reifenstein and Albright¹² well defined the sequence of events in Paget's disease. They also demonstrated possible ways of following the progress of the disease. It is possible to follow cycles of activity by comparing periodic x-ray films of the bones to determine whether there is decreased or increased density. One might also determine activity clinically by increased vascularity on palpation (increased warmth) or by auscultation, by the development of bone pain, or bowing or fracture. One can also gauge bone breakdown and repair on the basis of chemical changes in the blood and urine. Thus, increased bone breakdown due to whatever cause, possibly increased osteoclastic activity, will be associated with hypercalciuria, while bone repair or the increased activity of osteoblasts is reflected in increasing serum alkaline phosphatase. These indices seem to correlate quite well with clinical findings and with the x-ray appearance. A localized area of bone destruction may remain present for a long time,¹³ may show radiolucency on x-ray and be accompanied by hypercalciuria during the active phase and little if any elevation of the alkaline phosphatase. With active bone repair, hypercalciuria

lessens, bone density increases and the alkaline phosphatase level rises until healing is complete and a more stable state reestablished. A very high level of alkaline phosphatase is indicative of sarcomatous change. Response to treatment, likewise, can be equated in these terms, healing being signified by rise of alkaline phosphatase with decreasing urinary calcium excretion. In some instances, biopsy of specimens of bone taken serially from accessible regions, such as the skull, have well correlated with x-ray and with chemical findings.

EFFECTS OF FRACTURE AND IMMOBILIZATION

The skeleton depends for its integrity on the stresses and strains of activity. This has been well documented by the studies of Deitrick, Whedon and Shorr in immobilized normal men.^{2,18} With immobilization bone breakdown continues unabated, while the processes of bone repair are halted.

What is true for normal men is even of greater importance in patients with Paget's disease because of increased bone catabolism. If such a patient is immobilized (after a fracture, for example) the accelerated bone breakdown continues, enhanced by the catabolic effect of the stress of the fracture, resulting in overloading of the circulation and renal excretory capacity for calcium. This may give rise to significant hypercalciuria, and, if fluids are not forced, and if calcium intake is not drastically restricted, kidney stones, renal calcification and finally hypercalcemia and "chemical death" may ensue.¹² Since Paget's disease commonly affects people after the age of 45, when the steroidal balance shows a greater tendency to catabolism and lessened anabolism¹¹ especially in postmenopausal women, immobilization becomes an even greater hazard. Similar problems are encountered in elderly, bed-ridden patients, in paraplegics, in patients with osteolytic malignant disease and in arthritic patients receiving cortisone, who are all subject to complications similar to those of patients who have Paget's disease. Aside from all efforts to force fluids and to reestablish mobility, the use of anabolic steroids such as the androgens and estrogens seems to be the method of choice to hasten bone repair by enhancing nitrogen and calcium retention and thus lessening the loss of these elements in the urine. Milk and its products, our most important dietary source of calcium, must be restricted until such time as a lessening of the hypercalciuria and an increase of the serum alkaline phosphatase level indicate the skeleton again can use calcium.

In general, fractures heal quite well in patients with Paget's disease, although osteoporosis may occur at sites away from the fracture.¹² On the other hand, one often observes so-called fractures, without

displacement (Figures 1 and 2) which remain virtually unchanged in appearance for prolonged periods. The roentgenograms may be those of "pseudofractures,"—perhaps blood vessel shadows, similar to the pseudofractures in osteomalacia with milkman's syndrome.¹⁵ Patients should not be unnecessarily immobilized because of these shadows, which often remain even in well healed areas of Paget's disease.

EFFECTS AND USE OF HORMONAL AGENTS

In males, the benefits from estrogen therapy of Paget's disease as recommended by Reifenstein and Albright¹² are partially offset by the undesirable effects of such therapy, such as breast tenderness and possible testicular damage. Gordan,³ among others, extended anabolic therapy by using sublingual methyltestosterone, in both men and women with Paget's disease, observing lessening bone pain as well as lessening of the hypercalciuria frequently observed in patients with active disease. In the present series of patients with Paget's disease in the active phase, hypercalciuria was the rule, and therefore initially reliance was put on the anabolic agents alone; vitamin D and calcium supplements were not used and milk was proscribed. This provided a means of observing the effects of treatment, or of progress of the disease, and at the same time avoided significant hypercalciuria and its inherent dangers. For good measure, ascorbic acid in doses of 500 to 1,000 mg. a day were given to improve the bone matrix. Combinations of androgens and estrogens were administered in a manner quite similar to that used in the treatment of osteoporosis in postmenopausal women.^{5,6,17} In some cases in which there was clinical progress of a lesion while the patient was receiving small amounts of estrogens, both symptomatic improvement and reduction of hypercalciuria were obtained by increasing the daily dose, for example, from 1.25 to 3.5 mg. of Premarin,[®] or 1 to 3 mg. of stilbestrol, and the addition of methyltestosterone sublingually, or of Depo-Testosterone[®] 50 to 100 mg. parenterally every three to four weeks. In long term studies of three male subjects, long-acting testosterone (Delatestryl[®]) alone was used in two cases and a combination of long-acting testosterone and estrogen (Deladumone[®]) in the third. During treatment, serial determinations were made of the urine and blood calcium, phosphorus and alkaline phosphatase levels as well as clinical and x-ray observations to correlate with these changes. In the use of these hormones over four years, the effectiveness, potency and the freedom from undesirable side effects were impressive. By cyclic administration—that is, single injections every three to six weeks—treatment is greatly simplified.^{6,11}

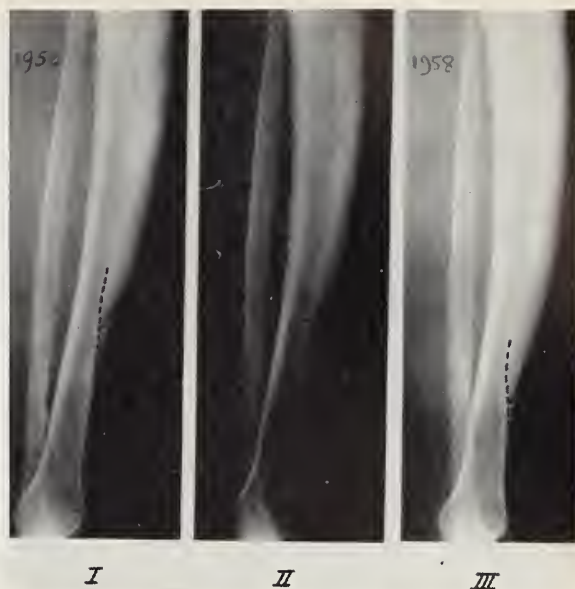


Figure 1 (Case 1).—Paget's disease of left tibia. Serial x-ray films to show progression of lesion (marked in with dotted lines). The numbers I, II and III correspond to Chart 1, showing the dates the films were taken. Note the fissures in the upper third of the tibia in all films in virtually the same location.

Cortisone was used in only one case, that of a patient with intense bone pain and progression of disease. It had to be discontinued because of the appearance of indigestion. The observations of Albright and Henneman¹ with these antianabolic agents are of greatest interest, for they seem to indicate that these agents, although not promoting bone repair, do tend to stop bone breakdown and thus cause lessening of hypercalciuria. These observers contrasted the effect of these agents with bedrest, which, as noted above, stops osteoblastic activity while bone breakdown continues unabated. Although the use of these agents—large amounts are required—is not as yet practical, there is the definite suggestion that, in contrast to the anabolic steroids which promote healing and slow down the progress of disease but do not stop it, the antianabolic agents may bring about actual cessation of the disease stimulus. The possibility of combining cortisone with anabolic agents has not, as yet, been explored. The rationale of using such combinations has been recently discussed by Reifenstein.¹⁰

REPORTS OF THREE CASES

CASE 1. The patient, a carpenter 54 years of age in 1952, had localized Paget's disease process in the left tibia (Figure 1, I). Except for some increased warmth, there was no complaint. The blood and urine chemical values were normal except for a

PAGETS DISEASE TREATED WITH LONG-ACTING ANABOLIC STEROIDS

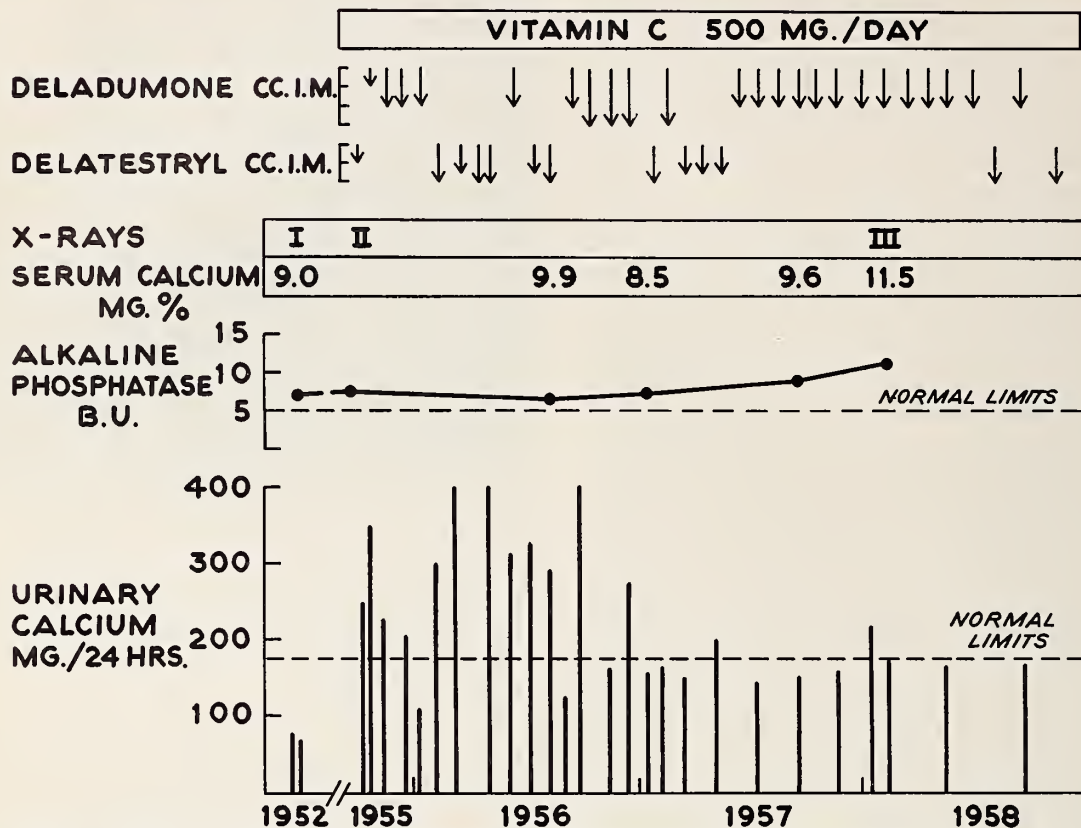


Chart 1 (Case 1).—Correlation of calcium and phosphatase levels of blood and urine while patient was being treated with Delatestryl®* and Deladumone.®†

slightly elevated alkaline phosphatase level (Chart 1). No treatment was given until 1955 when the patient returned with complaint of a great deal of pain over the shin, and some bowing. While the blood chemical values were virtually the same as in 1952, there now was intense hypercalciuria—a 4 plus reaction to a urinary Sulkowitch test and urinary calcium levels of 250 to 350 mg. per 24 hours on a diet free of milk and cheese. X-ray films (Figure 1, II) showed progression of the disease process, as well as demineralization of the tibia, with several fissure fractures in the upper third. Treatment consisted of a high protein diet, free of milk and cheese, the administration of ascorbic acid, 500 mg. daily, and long-acting anabolic hormones in the form of Delatestryl®* and Deladumone®† given in doses of 1 to 3 cc, intramuscularly every three weeks. From an inspection of Chart 1 it appears that the combined androgen-estrogen period was more effective in reducing hypercalciuria, although this is not conclusive. The patient experienced fairly prompt relief of bone pain; the hypercalciuria gradually lessened

*Each cc. contains 200 mg. of Delatestyl.

†Each cc. contains 90 mg. of Delatestryl and 4 mg. of Delestrogen.

and, when calcium content approached the normal limits, two glasses of milk were allowed in the diet. There were few side effects, such as transient tenderness of the nipples, especially with Deladumone,[®] and no loss of libido or potency was noted in spite of some testicular atrophy. No edema was noted even when the larger doses (3 cc.*†) were given. With a lessening of hypercalciuria, the alkaline phosphatase level gradually rose. At one point in 1957, renewed pain and tenderness were noted and a short course of prednisone was tried. It had to be discontinued, however, because of indigestion. X-ray films taken in 1958 (Figure 1, III) showed definite slowing of the progressive osteoclastic lesion, with intensive recalcification of the previously osteoporotic bone. The fissure fractures noted in 1952 and 1955, however, had remained virtually unchanged in the same location.

The patient stopped hormonal treatment for reasons of his own in November 1958. He was fully active, and in May, 1959, while bowling, he slipped and fractured the tibia at the site of one of the fissures. Intense hypercalciuria with demineralization was again noted, and hormonal therapy was

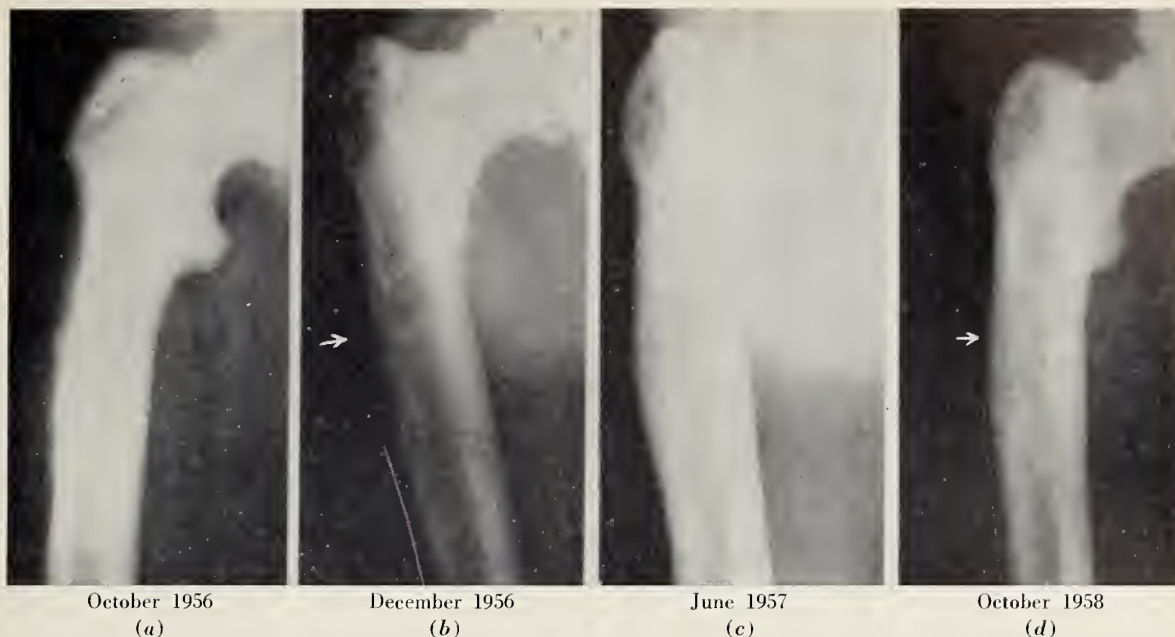


Figure 2.—Serial x-ray films showing progression and healing of lesion. Note that the fissure fractures observed in 1956 (arrow) remained stationary. The area of rarefaction along the lateral margin of the femur is marked in for better visualization.

resumed. The fracture healed well with minimal immobilization.

CASE 2.* A 54-year-old laborer was first noted to have Paget's disease of the pelvis in 1951. In the absence of symptoms or chemical abnormalities except for a slightly elevated alkaline phosphatase, no treatment was given. In February 1956, a minor injury caused a fracture through a pubic ramus. X-ray films at this time showed decided progression of the disease process, with many areas of radiolucency. The alkaline phosphatase level was 13.8 Bodansky units, and the urinary calcium excretion 211 mg. per 24 hours on a diet without milk or cheese. The patient complained of a feeling of warmth and painful congestion about the left hemipelvis. Treatment was begun with a high protein diet, additional ascorbic acid, and anabolic steroid hormones, first Depo-Testosterone® and subsequently Delatestryl®, in doses of 150 to 300 mg. every three weeks. There was rapid abatement of symptoms and lessening of hypercalciuria; after a rise of the alkaline phosphatase level to 16.2 Bodansky units it gradually fell to 10.9 units over seven months of continuous treatment. The patient was fully ambulatory after a short initial period of immobilization. X-ray films in January 1957 showed remineralization of the previously observed radiolucent areas in the pelvis. Treatment was maintained at 2 cc. Delatestryl (400 mg.) every four to six weeks. The patient made no complaint of undesirable side effects.

*Studied through the courtesy of Dr. David Sutherland.

CASE 3.† A dentist 56 years of age was first observed to have Paget's disease of the upper right femur in 1956. Except for a mildly limping gait, symptoms were few. The blood and urine chemical values were normal, except for slight elevation of alkaline phosphatase content. Between July and October of 1956, x-ray films showed decided progression of the disease process. Two areas of radiolucency resembling fissure fractures appeared at the lateral margin of the upper femur (see Figure 2, a). Weight-bearing was minimized in order to lessen the danger of fracture, and treatment with anabolic steroid hormones was begun. The alkaline phosphatase level in October 1956 was 20.5 Bodansky units, and there was a 3 plus reaction to a urinary Sulkowitch test with the patient on a diet without milk or cheese. Thereupon a high protein diet, free of milk and cheese was prescribed with the addition of ascorbic acid. Delatestryl® was administered, 2 cc. every three weeks. X-ray films in December (Figure 2, b) showed further intense demineralization of the entire femur, probably due to the immobilization of the patient. At this time the alkaline phosphatase was 31.4 Bodansky units, and the urinary Sulkowitch test reaction was nil. Treatment was continued for several months, and since the patient had little pain, weight-bearing was permitted. X-ray films taken in June 1957 (Figure 2, c) showed intense recalcification of bone. Since the urinary calcium and serum

†Studied through the courtesy of Dr. Floyd H. Jergesen.

calcium levels were low, while the alkaline phosphatase level was still elevated, vitamin D 50,000 units, was added twice weekly. Receiving 2 to 3 cc. of Delatestryl®* alternating with Deladumone®† every four to six weeks, the patient continued to do well and was fully ambulatory. X-ray films in October 1958 (Figure 2, d) and later showed little bowing. The previously noted fissure fractures remained virtually unchanged. In spite of the large doses of anabolic hormones there were no side effects.

DISCUSSION

A better understanding of bone physiology, largely due to the work of Albright, has pointed the way to the need of agents to enhance bone anabolism in order to heal the lesions of Paget's disease. The anabolic steroid hormones are the best available agents to date to affect bone matrix and osteoblastic activity. They lessen hypercalciuria from increased bone breakdown, promote healing with rise of the serum alkaline phosphatase level and lessen bone pain. While they promote healing of fractures and slow the progress of the disease, they do not seem to stop it. A combination of male and female hormones, employed in a manner similar to that used in the treatment of osteoporosis, seems effective. The newer long-acting injectable hormones appear simple, convenient and effective.

Corticotropin and cortisone, in large doses, appear to stop the catabolic phase of the disease more than they interfere with bone anabolism. The large doses employed, however, act catabolically on normal bone, and also produce undesirable side effects—psychosis and indigestion—which makes prolonged treatment undesirable. Combinations of cortisone and anabolic steroids to offset some of these effects have not as yet been explored. The effects of corticotropin and cortisone may shed some light on the etiology of Paget's disease.

The lessons learned from the physiologic events of patients with Paget's disease are applicable to a variety of bone disorders. Thus, if in any situation in which there is diminished bone anabolism with continued or enhanced bone catabolism, hypercalciuria results, the treatment of primary importance is mobilization, forcing of fluids, high protein intake and, possibly the addition of anabolic hormones. The intake of calcium containing foods, such as milk, should be curtailed, in order to lessen the hypercalciuria and the likelihood of formation of renal stones, hypercalcemia and "chemical death" from calcium poisoning.¹² There seems to be far less danger from producing a dietary calcium deficiency syndrome in adult men, than there is danger from producing calcium excess. This viewpoint is

even more cogent in view of recent papers, such as Hegsted's^{4,16} who seriously questions whether the recommended dietary calcium intakes of adults are not too high for the needs of the skeleton. While little disadvantage has been demonstrated in people consuming much smaller amounts, examples where dietary excess may lead to aggravation of existing hypercalciuria or hypercalcemia are well known, making low calcium intakes imperative, and sometimes lifesaving. The patient with Paget's disease, in the catabolic phase, and especially when immobilized, is such an example.

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*Each cc. contains 200 mg. of Delatestryl.

†Each cc. contains 90 mg. of Delatestryl and 4 mg. of Delestrogen.

Right Diaphragmatic Hernia Secondary to Trauma

With Report of Two Cases

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TRAUMATIC DIAPHRAGMATIC HERNIAS are being reported in increasing number. This is due to several factors. Automobile accidents at high speeds have resulted in more cases of severe multiple injuries, and nowadays more patients survive as a result of advancing knowledge in the early treatment in such cases. Entities such as traumatic diaphragmatic hernias, once considered rarities, are now being recognized and successfully treated. Gradually, the pathological patterns associated with these injuries are becoming evident.

Since strangulated diaphragmatic hernia is of traumatic origin (Carter²) in some 90 per cent of cases, it is a condition to be kept in mind in dealing with persons who have been injured in ways that might cause the diaphragm to rupture. From 95 to 98 per cent of traumatic diaphragmatic hernias occur on the left side.⁷ The liver tends to protect the right diaphragm from rupture. When the right diaphragm is ruptured, however, the rent may be a very large one, permitting the liver to become tamponaded in the opening or part of the liver and part of the bowel to rise into the pleural cavity.

It is important that repair be done early in cases in which the liver is involved. In the case reported by Child⁴ the injury had taken place 44 years previously and it was necessary to amputate that portion of the liver above the diaphragm which had become elongated and could no longer be easily replaced. Protrusion of the liver into the thorax can considerably impair cardiovascular function. The liver mass constricts and may interfere with its own blood supply, causing early strangulation of the liver substance and bringing about pain or distress in the right upper quadrant and subcostal areas.

In many cases, pneumothorax may follow laparotomy. For this reason an endotracheal tube should always be used in any laparotomy following a massive crush injury. An unsuspected diaphragmatic opening would result in pneumothorax with serious degrees of anoxia if the anesthetist were unprepared to control the intrapulmonary pressure.

Although in most cases the injuries are received in automobile collisions, such causes as falling from a great height,⁴ being kicked in the abdomen,¹⁸ an

• With automobile accidents at high speed on the increase, some previously rare injuries are becoming more common. Rupture of the left diaphragm is fairly common. On the right, it has been believed rare. The diagnosis has often been missed for many years after the causative injury.

Any suspicious x-ray film shadow at the base of the right lung field after injury such as those that occur in accidents of great impact should arouse the physician's suspicions. A mushroom-shaped mass on the lateral x-ray view is characteristic.

Introduction of pneumoperitoncum may help in diagnosis. Only if the peritoneal and pleural cavities communicate will this procedure produce a pneumothorax.

Surgical correction is indicated in all cases. This is best done through the chest. The right lobe of the liver usually must be reduced. In general the results are excellent.

airplane crash,¹¹ a stab wound^{5,13} and a mining accident²⁰ have been reported as causes. Often the patient has numerous other lesions, particularly multiple fractures of ribs. A few have been reported with no history of previous trauma.

Diagnosis

There may be no specific symptoms referable to the ruptured diaphragm immediately after the accident, or the examiner's attention may be drawn to other serious injuries. In most of the cases reported in the literature diagnosis was not made until many years after the causative injury. The more common symptoms include pain over the chest and evidence of disturbance of cardio-respiratory function owing to displacement. Dyspnea and cyanosis, tachycardia, lowered blood pressure, mediastinal shift and signs of intestinal obstruction may occur.

In the differential diagnosis, such conditions as emphysema, eventration of the diaphragm, cystic disease of the lung, lung abscess, intrathoracic tumors, pleural effusion, chronic pleurisy and hemothorax must be considered. In many of these conditions, the preoperative diagnosis is merely of academic importance for the preferred treatment is surgical operation.

Carter² has divided the course of traumatic diaphragmatic hernia into three separate phases. Dur-

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ing the first phase, immediately following the injury, shock and upper abdominal pain, which may radiate to the shoulders, are often present. The lower chest may be dull or tympanitic. The mediastinum may be shifted. During the second phase, the symptoms are frequently vague, suggesting coronary disease, peptic ulcer, gallbladder disease or incomplete intestinal obstruction. The third phase is characterized by obstruction or strangulation of viscera incarcerated in the diaphragmatic opening.

In the relatively rare strangulated right diaphragmatic hernia, symptoms are usually vague and non-specific.

Roentgen Diagnosis

Barium studies are of help in cases in which the stomach or bowel is involved. Following trauma, any suspicious shadows at the bases of the pleural cavities must be carefully evaluated with the possibility of diaphragmatic hernia in mind. Lateral views may be of assistance. Some investigators^{8,19} have found that pneumoperitoneum is sometimes helpful. A characteristic mushroom-shaped mass on the lateral view is outlined by the air in cases in which there is a communication between the peritoneal and pleural cavities; but if no such communication exists, pneumoperitoneum is of no assistance.

Surgical Treatment

Most investigators have expressed preference for the thoracic approach because with the abdominal incision the right lobe of the liver gets in the way. Rives¹⁸ advocated a thoraco-abdominal approach, particularly in cases of long standing with numerous vascular adhesions to the liver. In these cases mobilization of the liver through the chest approach alone may create serious hemorrhage. Manlove,¹⁵ on the basis of observations in a case of bilateral rupture, advocated the abdominal approach.

Opinion differs as to the advisability of crushing the phrenic nerve. Many surgeons recommend it, but unless the repaired diaphragm is under considerable tension the disadvantages would seem to far outweigh the advantages. As Chamberlain³ pointed out, the three reasons for paralyzing the diaphragm are to quiet the operative field, to bring about maximum relaxation of the diaphragm and thereby facilitate repair, and to promote healing. However, adequate anesthesia will sufficiently quiet the field and relax the diaphragm, and relaxation as a way to promote healing is no longer as generally subscribed to as formerly. The detrimental effects of phrenic paralysis are many and frequently severe. The loss of phrenic function will reduce the patient's respiratory reserve, will diminish the efficiency of normal bronchial peristalsis and of tracheo-

bronchial cleansing by cough. In a fair proportion of cases in which the diaphragm is "temporarily" paralyzed by crushing, it never again functions. In many cases only partial function is regained, for loss of nerve supply causes a lower motor neuron type of atrophy which may never completely reverse. A left phrenic crush often results in gastric disturbances.

Most investigators have expressed belief that it is wise to place tubes for drainage of the field after the operation, since usually it is necessary to free adhesions in the course of the procedure. This causes exudate to accumulate in the thoracic cavity, where it embarrasses reexpansion of the lungs unless it is drawn off. Drainage from tubes in place is far less distressing to most patients than thoracentesis.

Repair of the defect is usually easily done by use of mattress or interrupted heavy nonabsorbable sutures. Should the diaphragm be avulsed from its line of attachment and not enough cuff remaining for resuturing at the normal site of junction, the edge of the avulsed leaf can be attached over one or two interspaces at a higher level.⁷ In rare instances it may be necessary to remove small posterior segments of the lowermost ribs. The diaphragmatic extension into the transversalis muscle may be dissected out to obtain closure without tension. When the diaphragm is detached from the chest wall, mattress sutures through the chest may be tied over tubes on the outside. This is followed by interrupted intrapleural sutures.¹⁰

REPORTS OF CASES

CASE 1. A six-year-old girl was admitted to the San Jose Hospital, on December 7, 1956, shortly after she had been struck by a truck. Upon admission she was acutely ill, slightly cyanotic and hyperpneic. The radial pulse was faint and the rate was 160. The systolic blood pressure was 50 mm. of mercury. Extensive pelvic fractures, traumatic evulsion of the urethra and bleeding from the vagina were noted. The right diaphragm was roentgenographically observed to be decidedly elevated, and it was thought then that the displacement might be caused by a subdiaphragmatic accumulation of blood secondary to a hepatic laceration, or by traumatic eventration of the diaphragm or hemothorax. No ribs were fractured. The chest expanded evenly and the lungs were clear to auscultation. Breath sounds were diminished from a point about 1.5 cm. below the nipple line on the right and were almost absent at the right base. In this area the lung field was dull to percussion. The patient complained of generalized abdominal pain. The abdomen was soft, but there were no bowel sounds. Tympany

was present over the entire abdomen, most pronounced in the left upper quadrant.

As the urethral meatus could not be located, extraperitoneal urinary extravasation was considered probable. Ruptures of the diaphragm, the spleen or the liver were considered as possibilities.

Serum albumin and later whole blood were administered and eight hours after admission the general condition of the patient was much improved. She was then taken to surgery for exploratory laparotomy. At thoracentesis on the right just before operation was begun, not more than 80 cc. of blood was removed.

At operation the floor of the urethra was found to be completely torn from the roof of the vagina, permitting continuity between the two canals. The left vaginal vault was severely lacerated. A 2 cm. linear laceration of the right lateral wall of the bladder was repaired. Then the area was drained and suprapubic cystostomy was carried out. Upon exploration of the remainder of the peritoneal cavity, 200 to 300 cc. of serous fluid was found. No evidence of blood was noted even when sponges were placed in the gutters in the region of the liver and spleen. Convalescence was uneventful except that a urinary tract infection developed. The patient was febrile from December 23 onward.

As x-ray films of the chest showed the right diaphragm still elevated, thoracentesis was carried out several times but only a few cubic centimeters of what appeared to be old blood was aspirated. It was therefore believed that an organizing hemothorax was present. Diaphragmatic herniation was considered but was thought to be unlikely in view of the absence of blood in the peritoneal cavity at the previous laparotomy. Bronchial rupture was considered an unlikely possibility.

On January 10, a preliminary bronchoscopic examination showed no evidence of bronchial injury, so exploratory thoracotomy was carried out, the chest being entered through the seventh interspace. The right leaf of the diaphragm was found to be ruptured from a point posteriorly near the diaphragmatic crura, the tear extending over the dome to an anterolateral position several centimeters from the chest wall. The greater portion of the right lobe of the liver lay in the right lower thoracic cavity. Numerous adhesions between the rolled diaphragmatic edges and the liver were readily freed with sharp and blunt dissection. There was no peel on the lung, which expanded immediately without difficulty.

After the liver had been reduced into the abdominal cavity, the diaphragmatic edges were sutured. An intrapleural catheter was inserted before closure and was removed on the second postopera-

tive day. Convalescence was entirely uneventful and subsequent x-ray films showed the diaphragm in normal position and normal lung expansion.

Comment: This case illustrates the diagnostic difficulties that may be encountered. Although strongly suspected, the diaphragmatic defect was not found at the time of the first laparotomy because the liver completely tamponaded the diaphragmatic opening, giving excellent hemostasis to the torn diaphragm.

CASE 2. A 20-year-old white man who was thrown from his car in a collision soon afterward noted sharp pain in the chest, in the right shoulder-strap area and in the right mid-abdomen. He had some dyspnea, which was more pronounced when lying down. He was in hospital from June 9, the day of the accident, until June 13. X-ray films showed pronounced elevation of the right diaphragm. The patient was essentially asymptomatic at the end of this period and was permitted to go home, with the advice that he seek further medical care.

At the time he was first examined by the authors, thoracentesis was carried out on the right side and 120 cc. of sanguinous fluid was withdrawn. X-ray films showed the right diaphragm still elevated. Tympanic dullness over the lower half of the right chest was noted and no motion of the right diaphragm was detected. There were tenderness and swelling of the right costal arch and evidence of a fractured costal cartilage in this area.

With the presumptive diagnosis of traumatic right diaphragmatic hernia, operation was done June 27. A laceration of the diaphragm was observed, extending from a point one inch lateral from the inferior vena cava, across the dome of the diaphragm to within two inches of the lateral chest wall. A large part of the liver had herniated through this defect and this organ was tightly impacted. After the liver was returned to the abdomen, the edges of the defect were approximated with No. 1 and 2-0 silk. Convalescence was entirely uneventful.

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Cirrhosis Mortality in California—A Trend

WENDELL R. LIPSCOMB, M.D., Berkeley

PORTAL CIRRHOSIS is by far the most common form of cirrhosis observed by clinicians. The clinical-pathological manifestations of portal cirrhosis or its precursors can be produced by exposure to a variety of chemicals (including alcohol) yet in many cases the cause cannot be ascribed to a specific or known etiological agent. Experimental and clinical laboratory studies have been able to link nutritional deficiency as having an etiologic role in the development of cirrhosis of the liver; but, again, definitive knowledge of the relationship between nutrition and the development of portal cirrhosis is lacking. It is the purpose of this discussion to review the trend of cirrhosis mortality in the State of California and some of the implications of this trend for clinicians and public health workers.

Deaths Due to Cirrhosis of the Liver*

A recent announcement by the Metropolitan Life Insurance Company⁵ indicated that for its policy-holding population cirrhosis of the liver was the tenth most frequent cause of death of all causes for all ages. In the State of California in the year 1956 in the age group 35 to 44 years, cirrhosis of the liver was the fifth leading cause of death; and, for the age group 45 to 54 years, cirrhosis of the liver was the third most frequent cause of death.³ A comparison of crude death rates from cirrhosis of the liver for California and the United States for the years 1950-1953 indicates that California's crude death rate was substantially higher than that for the United States as a whole (Chart 1). In this study, another feature of cirrhosis mortality in California was evident. When deaths due to cirrhosis are posted by the recording agency or physician, they may be certificated with mention of alcoholism or without mention of alcoholism. The study demonstrated that for the same years, 1950-1953, in California the ratio of cases in which alcoholism was mentioned to the number of cases in which it was not mentioned was 1:1. The study also showed that this state, with approximately 7 per cent of the total population of the nation, accounted for one fourth of

• The recorded California death experience attributable to cirrhosis of the liver for the period 1910-1957 was collected and analyzed. The analysis clearly demonstrated a progressive increase in age-adjusted death rates for the past thirty-five years, paralleled by a constantly decreasing average age at death. Increasingly, California citizens are dying of cirrhosis of the liver at younger ages.

At a time when diagnosis and treatment of cirrhosis of the liver are at their highest points of clinical interest and concern, this analysis suggests that other morbid forces are at work in the production of liver cirrhosis that must be ferreted out by clinicians and epidemiologists.

all the nationally reported deaths from cirrhosis with mention of alcoholism. Compared to California's one-to-one ratio, the United States as a whole has a ratio of reported cirrhosis deaths with mention of alcoholism and without mention of alcoholism of one to three (Chart 2). From these data an investigation of the trend of the cirrhosis mortality seemed mandatory. Insofar as data could be collected on total populations as well as on recorded deaths due to cirrhosis, these were assembled and plotted as age-adjusted death rates, and as median age at death for all age groups (Chart 3) from the years 1910-1940 and 1950.

Chart 3 shows that from a high in 1910 of 17 per hundred thousand total population, the cirrhosis death rate fell in almost straight-line fashion to a

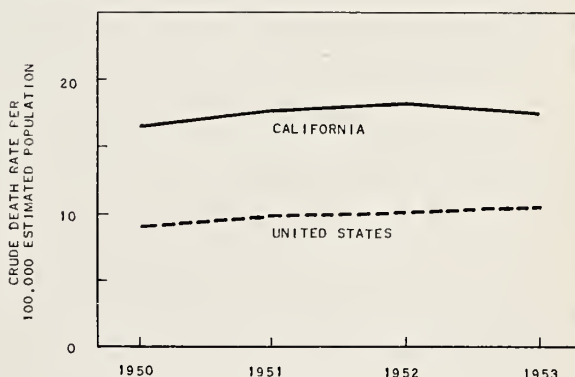


Chart 1.—Crude death rates from cirrhosis of the liver, California and United States, 1950-1953 (by place of occurrence).

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*The cirrhosis of the liver referred to in this paper is ISC 581 as listed in the *Manual of Statistical Classification of Diseases, Injuries and Causes of Death, 6th Revision*—World Health Organization, 1949.

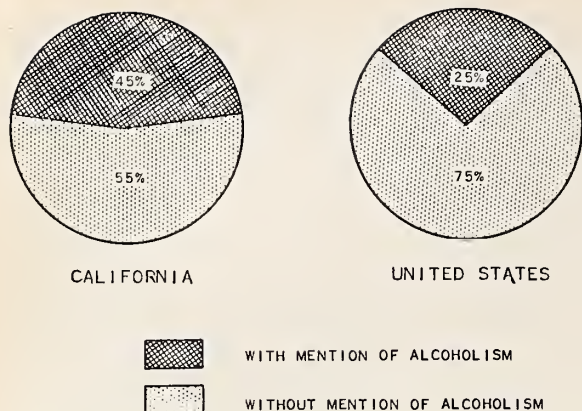


Chart 2.—Deaths from cirrhosis of the liver, 1950-1953.

low of eight in 1920; and then, from 1920 forward until 1957, gradually assumed ever-increasing upward momentum. In short, excluding the periods of Prohibition, of World War I and of the influenza pandemic of 1918, the cirrhosis death rate has consistently been climbing.

Another pertinent finding emerging from this analysis is seen in the companion chart on median age of death for age 20 and over.* The median age of death rose rapidly from the fifth to the sixth decade during the years 1910 to 1920, and since 1921 has gradually lowered until, in 1957, the median age at death from cirrhosis of the liver was 54.

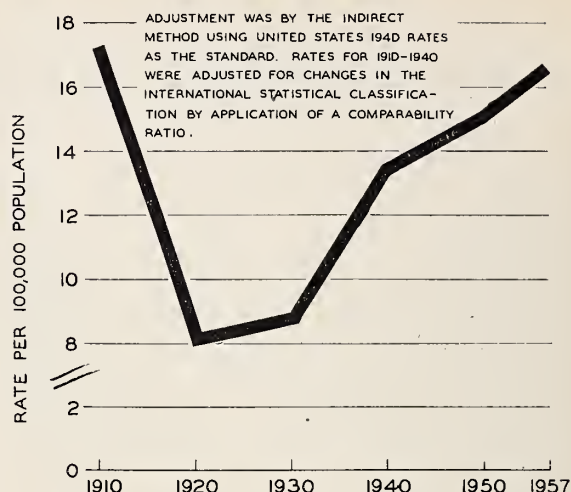
DISCUSSION

It is strikingly apparent that for the past three decades cirrhosis of the liver as a cause of death has consistently increased proportionally in the mortality data for the population of California. Similarly, over the same period the average age at which cirrhosis deaths occur has been decreasing. The question arises, what is happening to the livers of California inhabitants? Is the disease today the same disease of twenty or thirty years ago? Are we, as a population, being exposed to toxins, chemicals or living organisms with a predilection for injuring the liver? Is our way of life—professional, occupational, social and recreational—conducive to a physical health status that makes our livers susceptible to this disease?

Cirrhosis of the liver is a relatively chronic disease with a fairly long morbidity before death. Data on the average age of onset make clear the fact that it has gradually been affecting more and more persons who should be in the "prime of life." The

*The numbers of cirrhosis deaths recorded for persons younger than age 20 are less than 0.5 per cent of the total for the general population.

AGE-ADJUSTED DEATH RATES



MEDIAN AGE AT DEATH

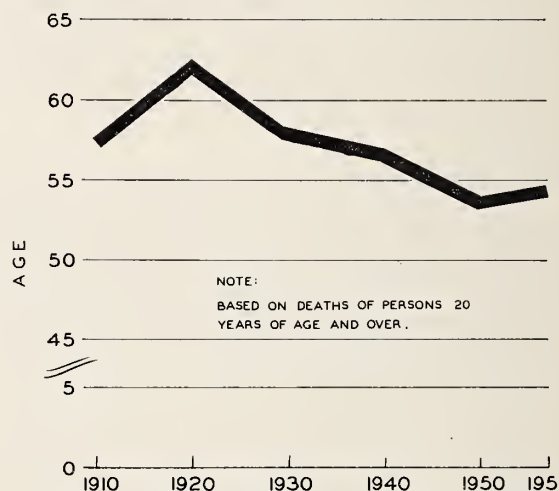


Chart 3.—Mortality from cirrhosis of the liver (California, 1910-1957).

increase, as demonstrated here, cannot alone be accounted for by improved diagnostic methods or by aging population. Improved diagnostic methods have been worked out, enabling earlier diagnosis—a fact paralleled by the advent of many new and improved treatment methods, surgical and medical. Similarly, throughout the same period there has been a qualitative betterment of diet and general nutritive state. The implication for these conditions as they relate to cirrhosis of the liver should strongly suggest a decline rather than an increase in cirrhosis death rates; or, if increases do occur they should occur in the older age groups rather than in the younger. Investigation along several lines is being carried out within the State Department of

Public Health, the results of which will be made available in the future.

For the epidemiologist, the literature concerned with cirrhosis offers several thought-provoking findings:

(a) The prevalence of cirrhosis deaths shows a great variation geographically;⁴

(b) Cirrhosis is of higher prevalence in the larger cities;²

(c) The death rate from cirrhosis of the liver is two to three times higher for men than for women.⁷

(d) Certain occupational and professional groups with ready access to alcoholic beverages appear to be higher risks in the development of cirrhosis of the liver;¹

(e) Approximately three fourths of the patients with cirrhosis give a history of chronic alcoholism; but, at a maximum, only 30 per cent of all chronic alcoholics develop cirrhosis;⁶

(f) Cirrhosis is usually linked with nutritional aberration as a precursor to or an effect of the illness.

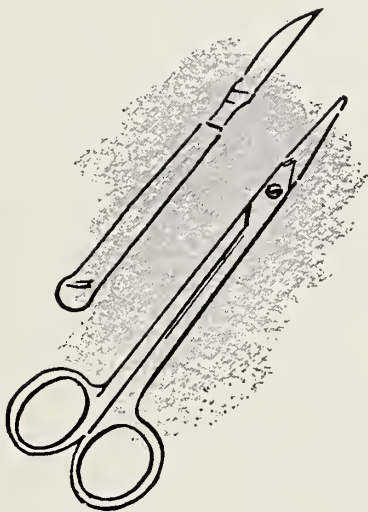
The findings of this and other inquiries show in cirrhosis of the liver a slowly progressive chronic disease epidemic, and suggest that the concerted forces from the various fields of clinical medicine

and public health focus their efforts on this disease for a better understanding of etiologic factors, natural history and, hopefully, prevention.

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Acute Appendicitis Complicating Pregnancy

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THE FIRST RECORDED CASE of appendicitis complicating pregnancy was reported in 1848 by Hancock.³ Ten days after a premature delivery he incised a perityphlitic abscess and the patient recovered. Sixty years later Babler¹ was able to compile a large series of cases from the literature. Of 103 patients with perforation 89 were operated upon. Abortion occurred before operation in 32 cases, after operation in 37, and 36 mothers died. The mothers died in all the 14 cases in which treatment was nonsurgical. There were 104 cases without perforation; 50 of the patients were operated upon, seven aborted and one mother died. Of the 54 treated without operation, six aborted and 4 mothers died.

Babler also collected reports of 28 cases in which appendicitis—with perforation in 18 cases—complicated the first ten days of the puerperium. Of patients operated upon, four died. Six were treated without operation and four died. Twelve of the 18 with perforation were operated upon and four died. Four of six treated without operation died. The other two “recovered by accident,” the pus burrowing through into the rectum. Of nine patients without perforation, three were operated upon and six were treated conservatively. All recovered. The other case in the series was reported with insufficient details for classification.

Babler¹ concluded that the treatment of choice was early operation and made the statement that “the mortality of appendicitis complicating pregnancy and the puerperium is the mortality of delay.”

An attempt was made to collect data on all cases of appendicitis during pregnancy at both the St. John's and Santa Monica hospitals. Unfortunately, the coding is incomplete, and many of the records are inadequate. Hence it was impossible to get accurate data on incidence, on diagnostic error or on the value of specific points in history or examination in making a diagnosis. In all, records of 29 cases with a diagnosis of appendicitis in pregnant women were found. In one of these cases the diagnosis was “subsiding appendicitis,” and the patient was discharged without operation. (The case was not included in this series.) There were eight cases in which the diagnosis was not confirmed pathologically. It is

• Acute appendicitis occurs as a complication of pregnancy in about 0.1 per cent of cases. Diagnosis may be somewhat more difficult during the second and third trimesters due to the displacement of viscera and the increased incidence of pyelitis and constipation. It is based on the same symptoms and signs as in nonpregnant patients.

The treatment is immediate operation regardless of the stage of pregnancy. A McBurney incision is preferred and it is placed somewhat higher than usual in the later stages of pregnancy. When operation is done promptly there is little danger to either mother or fetus.

likely that this apparent diagnostic error of only 28.5 per cent is ascribable to our inability to find the reports of all cases in which preoperative diagnosis of appendicitis was not confirmed. Of the remaining 20 cases of acute appendicitis in pregnancy, four showed perforation. There were no deaths and no abortions.

The incidence of acute appendicitis during pregnancy is usually estimated as from 0.1 to 0.2 per cent. During the period covered by this study there were 19,932 deliveries in the two hospitals whose records were scanned; and as there were 20 cases of acute appendicitis in pregnant women during the same period, the incidence was 0.1 per cent. The overall incidence computed by combining the data on the present series with those from several published series was 0.08 per cent.

Beginning at about the third month of pregnancy the appendix is displaced upward by the enlarging uterus and at the same time it undergoes a counterclockwise rotation. This was well demonstrated by Baer, Reis and Arens² who studied 78 patients with normal pregnancy and no clinical evidence of appendicitis. They made gastrointestinal x-ray studies at intervals from the second month of pregnancy to 10 days postpartum. One can easily imagine that this displacement might at times increase an already present tendency to obstruction by kinking. If this were so, appendicitis should be more common in the second and third trimesters. Several investigators have tried to relate the frequency of appendicitis to the stage of pregnancy. Joergensen⁵ said that most cases occur in the first six months, especially the second trimester, when the appendix changes from a pelvic to an abdominal organ. However, he did not

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give statistics to support that statement. Hoffman and Suzuki⁴ reported 16 cases in the first trimester, 18 in the second and 11 in the third. In Meharg and Loop's⁶ series the distribution according to trimesters was seven, two and two. In the series herein reported, the distribution was about equal. Of course, these series are too small to be statistically significant.

Joergensen⁵ said that a pregnant woman is more susceptible to recurrent appendicitis and that the incidence is between 1 per cent and 2.5 per cent. This is ten times the usually stated incidence of appendicitis in all pregnant women. Joergensen expressed belief that an interval appendectomy should be done in pregnant women who have a history of previous attacks of appendicitis. This seems a rather radical view, particularly when one considers the difficulty in evaluating a story of past attacks of abdominal pain. Joergensen⁵ did not give statistics to support this belief. In the present series no comparison could be made on this point, since most of the records did not mention previous attacks.

Some observers have tried to relate parity to the frequency of appendicitis. Meharg and Loop⁶ said that "the incidence of appendicitis is inversely proportional to the parity and gravidity." But Joergensen⁵ held that "parity plays no part." This is another point we are unable to clarify, as half of our records did not note whether or not there had been previous pregnancies.

The signs and symptoms of acute appendicitis are essentially the same in pregnant as in nonpregnant patients, although in the later stages of pregnancy the appendix may be situated somewhat higher than usual. Baer, Reis and Arens² said that the point of maximum tenderness is always over the appendix. On the other hand Meharg and Loop⁶ stressed that the pain and hyperesthesia are low over McBurney's point in spite of the upward displacement of the appendix. In the present series there were 14 cases in the second and third trimesters. In 13 of these there was a history of localization of pain in the right lower quadrant of the abdomen and in ten the maximum tenderness on physical examinations was also in that area. It has been our experience that the pain and tenderness are often localized at McBurney's point, regardless of the anatomical position of the appendix. This is sometimes noted in cases of incomplete rotation of the colon and even in situs inversus viscerum.

In the present series the body temperature at the time of admittance ranged from 99.0° F. in some cases to 101° F. in others. The average was 98.0° F. and in 9 of the 20 cases it was recorded at 98.6°. Leukocytosis was almost always present. In patients with perforation the lowest leukocyte content was

TABLE 1.—Mortality Data on Cases in Which Appendectomy Was Done During Pregnancy

Data from	Cases	Maternal Deaths	Fetal Deaths
Hoffman and Suzuki ⁴	126	1	9†
Walker and Greaney ⁹	49	0	4
Mussey and Crane ⁸	122	2	2
Meiling ¹	26*	2	Not stated
Present series	20	0	0

*Includes only cases in which preoperative diagnosis of appendicitis confirmed.

†One other fetal death, in case in which operation was not done.

6,200 per cu. mm., the highest was 25,000 and the average was 17,780. In those without perforation the range was from 9,600 to 24,900 per cu. mm. and the average was 15,574. In the cases in which the diagnosis of appendicitis was not confirmed at operation, the average leukocyte content was 9,575 per cu. mm.

It is of interest to compare the groups with and without perforation in relation to age and duration of symptoms. Those with perforation averaged eight years older than those without, which would suggest that the older patients were more phlegmatic about their symptoms and less likely to call a physician early. The average duration of symptoms in those without perforation was 19 hours, while in those with perforation the average was 71 hours. This pronounced difference in duration of symptoms is as one could expect. Although in this modern series there were no deaths, we are reminded of Babler's¹ statement fifty years ago that "the mortality of appendicitis during pregnancy and the puerperium is the mortality of delay."

The incidence of both maternal and fetal deaths varied considerably in the different series reviewed (Table 1). Most of these series are too small to have much statistical significance, but the data are in contrast with the results reported by Babler¹ in 1903.

It is generally considered that during pregnancy appendicitis is more than ordinarily difficult to diagnose. Hoffman and Suzuki⁴ reported on appendectomy in 126 of 44,242 pregnant patients. Forty-five of the patients were found at operation to have acute appendicitis—a diagnostic accuracy of 35 per cent. Meharg and Loop⁶ reported on 6,106 births and appendectomy in 25 of the mothers during gestation. The diagnosis of appendicitis was confirmed in 11 cases, giving a diagnostic accuracy of 44 per cent. They noted that this "compares favorably with the clinico-pathologic diagnostic agreement of 41 per cent on the surgical service." In the present series determination of diagnostic accuracy was not feasible because preoperative diagnosis was not coded in the available records.

As was previously noted, the diagnosis of appendicitis in pregnancy is made in the same way and

based on the same criteria as in nonpregnant patients. A history of persistent abdominal pain, usually beginning in the upper or mid-abdomen and later shifting to the right lower quadrant is commonly obtained and is characteristic. There is almost always anorexia and commonly nausea and vomiting. The characteristic findings on examination are spasm, tenderness and referred rebound tenderness localized in the right lower quadrant of the abdomen. When all of these symptoms are present the diagnosis is usually correct. It is the many atypical cases that tax diagnostic ability. In such cases the presence of pregnancy, especially in the later stages, makes the task of diagnosis even more difficult.

We feel strongly that a muscle-splitting incision (McBurney type) is the operation of choice. This may be placed slightly higher and farther to the right in advanced pregnancy because of the more pronounced displacement of the appendix. If the preoperative diagnosis proves to be incorrect, the McBurney incision can be extended or another incision made. There is little doubt that a muscle-splitting incision is less likely to lead to trouble during labor.

A variety of anesthetic agents may be used satisfactorily, but it is considered especially important during pregnancy that a high oxygen intake be maintained. For this reason cyclopropane is perhaps the agent of choice. Spinal anesthesia is very satisfactory, but it is used less often in recent years than formerly, due in part, at least, to unfortunate medico-legal implications.

The use of progestin to reduce the danger of abortion following operation during pregnancy has often been advocated, particularly during the first trimester.

Many obstetricians now feel that this is unnecessary and ineffective. There are also some dangers associated with the use of these hormones. Wilkins and associates¹⁰ reported 21 cases of female pseudo-hermaphroditism following the administration of progestins during pregnancy.

There seems to be unanimous agreement that once the diagnosis of appendicitis is made, early operation is the treatment of choice whatever the stage of pregnancy. When this is done the risk to both mother and fetus is slight.

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The Intersexed Patient

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A MOST DIFFICULT and rare, although most interesting, problem for a physician is that of the "intersexed" patient—that is, one in whom there is demonstrable abnormality, anatomically and/or biochemically, especially in the urogenital system.* When the abnormality is discovered in infancy, there is the problem of how to raise this person; later in life there are the problems of whether or not to assist the patient in a change of sex. It is well known that experts (Cappon¹ and Money,⁵ for example) fundamentally disagree on these issues. The physician's determination as to the most appropriate sex is vital in shaping the patient's future. Fortunately, this decision is approached with great caution.

Kiefer⁴ has defined sex as "the overall state of body and mind by which the individual conforms to the masculine or feminine standards of normality in the named sex-determining factors [chromosomes, gonads, hormones, sex organs, and psychic pattern]. It is an algebraic summation of these factors in which no one factor supersedes the others." This is the sense in which the word *sex* will be used in this communication.

Freud, and analysts who followed, demonstrated the presence of both masculine and feminine qualities in the character structure of all people. Freud explained this as the psychological manifestation of a biological bisexuality,³ which researchers of recent years have fully demonstrated. The anatomists have shown the presence of vestigial female reproductive organs in the male, and vice versa; embryologists have traced back the presence of these vestigial organs to an undifferentiated state of anatomical sex early in the embryo; by tampering with the early formed embryo, experimental biologists have changed various aspects of its somatic sex from that which had been chromosomally determined; endocrinologists have shown admixtures of both "male" and "female" hormones in both sexes. There has been increasing interest in unusual anatomical and endocrinological anomalies usually grouped under the wide heading of pseudohermaphrodites.

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*We are not considering those cases of homosexuality, transvestism, and other related perversions where no etiological (or even concomitant) anatomic or biochemical changes have been shown and where early childhood relationships with parents have been clearly found to be etiological.

• There are at present two opposing points of view on problems of dealing with the intersexed patient (not the typical homosexual or transvestite) who has clearcut anatomical or biochemical qualities of the opposite sex. The first is that in the growing child or adult coming for treatment, the sex the patient should adopt is the summation of somatic sex. The other is that the sex role should be assigned according to the predominant psychological identification already present.

A case history of a middle-aged pseudohermaphrodite, castrated in youth but raised from birth as a female and living thus in "homosexual" relations with women until examined and interviewed at UCLA Medical Center is presented to illustrate the psychological problems in sexual identity with which the patient had to cope.

Psychiatric investigation revealed how confused the patient's sex identity was until treatment by a team consisting of psychiatrist, psychologist and endocrinologist permitted the patient, even at so late a date, finally to establish what his gender is. The patient was able, despite early rearing as a female and a castrating operation, to swing to a more masculine identification. This was possible because of some uncertainty of sexual role from an early age.

Persons with such anomalies may have clearly defined external genitalia of one sex, yet have disturbances in endocrine function which would be commensurate with that sex and with gonads of the opposite sex.

To which sex should these patients be assigned? It is no longer possible simply to assign a person to sex according to the appearance of the external genitalia. Although the vast majority of persons clearly fall into one category or another, the unusual case is much less clear. Instead of using a single criterion as the determining factor in such assignment, recent investigators have been concerned with a number of variables. These are usually divided into two categories, the somatic: (1) chromosomal sex, (2) gonadal sex, (3) hormonal sex, (4) external and internal genitalia, (5) secondary sexual characteristics, (6) body habitus; and the psychological, that is, the sexual identification the person has made.

Two opposing points of view, both based on seasoned research and inquiring thoughtfulness, appear in the literature. The first is exemplified by Cappon,¹ who, in a report on a series of 17 intersexed patients, concluded: "When all the components are

added up, if the physical person has one gender, the mental person has the same gender. It was concluded that they must have a common source. . . . It also follows that sex assignment and rearing should always be in the direction of the preponderant somatic sex. . . . We advocate correcting any area in upbringing and in physiology and anatomy always in the direction of preponderant somatic sexuality to the extent of possibility and as soon as possible. . . ."

An opposing viewpoint is expressed by Money and the Hampsons,⁵ who were of the opinion that somatic gender is much less significant than certain psychological measurements in determining a patient's sex and in thus influencing the physician's decision as to which way to help the patient direct his development.

"From the sum total of hermaphroditic evidence," these investigators said, "the conclusion that emerges is that sexual behavior and orientation as male or female does not have an innate instinctive basis. . . . Sexuality is undifferentiated at birth and . . . becomes differentiated as masculine or feminine in the course of various experiences of growing up. . . . Though gender imprinting begins by the first birthday, the critical period is reached by about the age of 18 months. By the age of two and a half years gender role is already well established."³ Their conclusions were based on the study of 105 intersexed patients.

In another communication the same investigators said that "once a person's gender role begins to get well established, an attempt at its reversal is an extreme psychological hazard."⁶ They expressed belief that in the neonate and young infant, sex assignment is best made on the basis of external genitalia, and later hormonal and other treatment can be given as indicated. For older children, they strongly recommended that the child be left in the same sex as that originally assigned.

We have studied in a research-therapeutic relationship a patient with very anomalous sexual identifications. The patient was a 50-year-old, white, single person who presented herself* as a "butch"† when first referred to the Department of Psychiatry for research study. The patient was seen about once a week for two years.

At the time she was first seen, the patient considered herself a woman and had been brought up as a female from birth. Although some peculiarity of her external genitalia was noted by the physician who delivered her, no question was raised about her sex. The parents were told she was a girl, the birth certificate issued was for a female and she was ap-

propriately named. From birth on, she was considered a girl by her parents, neighbors, and friends and was treated as such. In her dress, the way she wore her hair, her mannerisms and companions, she was treated as and felt herself to be a girl. However, as she grew, she developed external genitalia consisting of a "clitoris" longer than the average girl's but shorter than a boy's penis, with first degree hypospadias, swollen "external labia" and a pencil-width opening an inch or so in depth between the labia.

Family history indicated that at least five other members of the patient's maternal family, and her mother and sister, had anomalies in genital structure.

The patient considered herself to have been a very active child and to have preferred boys' games as far back as she could remember, although she was given dolls and dishes. "I was always thinking of adventurous things that took nerve and daring, like driving racing cars and speed boats, to learn about guns and hunting—but I always thought of myself as a woman doing these things, not as a man."

The patient's mother was described as a meticulous and shy woman, pessimistic and cold, without signs of affection. The patient had no memory of ever having been held or comforted by her mother and felt that her mother wanted neither herself nor her sister. Her mother never enlightened her about sexual matters. Twice during the patient's childhood, her mother was hospitalized for mental illness, for about three weeks each time. The patient said she had noticed no abnormality and did not know why her mother went to the hospital.

She felt much closer to her father, considering him a kind, harassed man who was unable to cope with his wife's sexual and emotional frigidity. He passively retired from dealings with his wife and to a certain extent from the upbringing of the children. He was as restrictive of any conversation regarding sex as was her mother.

Relations with her sister are affectionate. She felt that her sister had been even more shy and retiring than she was because of the peculiarities of their sexual development. For a number of years they lived together. Although they worked and mingled with people at work, they tried whenever possible to isolate themselves from others. The sister was tall, muscular, heavy-boned and had a heavy beard, although thinking herself a woman. The sister had the same physical malformations the patient had; she was considered a female by the delivering physician and was so named and reared.

Sexual History

Despite the patient's appearing to have an unbroken memory to earliest years, there was a specific amnesia for early childhood sexual experiences

*In order to make easier the reader's empathy with the patient's own identification, the patient will be referred to as "she" for all events before the change to "he."

†Tough, male-imitating female homosexual.

and feelings. However, there were two memories from around the age of five, the first of a neighbor boy undressing the patient and their each looking at the other's genitals. This was interrupted by the patient's mother, who spanked her. The second memory at this age was trying to urinate while standing up, but "everything backfired and I realized I wasn't supposed to go in that manner." This "realization" was reinforced by watching girls urinating sitting down.

At the age of ten, a neighbor boy attempted intercourse with her, despite his being nonplussed at his inability to find a vagina. This activity caused the patient to have her first orgasm, with ejaculation.

Puberty occurred around the age of twelve, with changes in secondary sex characteristics (without the development of breasts) and an increased sexual desire, invariably directed toward girl friends and women teachers. Masturbation began not long after, with fantasies always related to girls, especially regarding breasts. Wet dreams, which were always about women, occurred one or two times a year. During adolescence, the patient had a number of crushes on school friends and teachers and had a few relationships with girls in which there was hugging and kissing but no genital contact.

During adolescence she felt nothing unusual about the fact that she had erections and emissions, assuming that this occurred with other females. She grew tall and muscular, became very interested in athletics, and was considered a superior athlete on the girls' teams in high school, although not the most proficient of all the girls. Somewhere after the age of fourteen, her feeling that her genitals were the same as other girls' but just precocious, and that their clitoris was inside and would grow out in time, became an uncertainty. In the gymnasium she gradually became aware that the other girls looked at her and would comment and giggle about her in a hidden although at times teasing manner. She soon realized that this was related to her genitalia. Although she continued friendly with these girls, she began to withdraw, feeling that the others were looking on her as a freak. As time passed, she realized that the others not only did not but probably would not develop as she did and that the others had breasts that she did not. This gave her a desperate, hopeless, trapped feeling, which persisted more or less constantly up to the time she was first seen by us.

At the age of eighteen she was discovered during a physical examination for cystitis to have unusual genitalia for a female and so was referred to a university medical center, where the external genitalia were removed. No reconstruction in the direction of a female perineum was attempted, although the patient was offered the opportunity. Following the

operation, some growth of the stump occurred. Sexual sensation disappeared in the stump for one to two years after operation but then returned.

The first overt sexual experience as an adult occurred when she was in her twenties. Since that time, she has had many affairs, some passing and some lasting for months. Except for a single, incomplete sexual experience with a man (which did not include genital contact) her adult sexual relationships were exclusively with women. This led to the patient's social and sexual life being tied up completely with homosexuals, with all social contacts occurring either in homes or in homosexual bars and clubs. The patient never questioned her being a homosexual nor did any of those with whom she associated. Had she not considered herself and been considered to be homosexual, she would not have been fully accepted in their company. The only women with whom she ever fell in love were those who were considered in homosexual circles to be "normal"; that is, they were women who dressed and acted feminine, who had been married, and most of whom had had children, and had entered into homosexual relations only in middle life. These close and affectionate relationships were few, and preferably with women somewhat older than herself.

Pertinent Medical History

From birth to the age of 18, the patient's medical history relating to her present illness is not significant. At the time of her castration, a masculine habitus and secondary sex characteristics, rudimentary testes, and rudimentary penis with first degree hypospadias were found.

It was felt at this time that the operation was indicated because the patient had been raised as a female and for that reason would necessarily have to continue so.

In our examination at the University of California at Los Angeles, the patient was observed to be a castrated male without body or facial hair, with delicate hair on the head, and masculine, although softened, body build. Results of endocrine studies were those to be expected for a male castrated at 18.* Cystoscopic examination demonstrated a verumontanum and a very small prostate. A specimen of buccal cells and a biopsy of thigh tissue revealed male chromatin staining.

The psychiatric examination was not remarkable except for evidence of problems in psychosexual identification, in the absence of abnormal findings. The patient was an intelligent, cooperative, warm and friendly person who showed no evidence of

*17 ketosteroids and 17-Hydroxycorticoids are normal but pregnanetriole is slightly elevated. (17 ketosteroids: 17.8 milligrams; normal 6-15 milligrams. Pregnanetriole: 3.9 milligrams; normal up to 3 milligrams. 17-Hydroxycorticoids (Glenn-Nelson): 5.7 milligrams; normal 2-6 milligrams. Follicle stimulating hormone: greater than 80.)

latent or overt psychosis. Whenever the patient displayed affect, it was quite appropriate—for example, sadness when discussing a long life of being widely different from normal people, or joy with the firming up of sexual identification in the latter part of her discussions with us.

Psychological Testing

Tests employed were the Minnesota Multiphasic Inventory, Rorschach, Thematic Apperception, Sentence Completion Test, Wechsler Adult Intelligence Scale, Bender Visual-Motor Test, and a Q Sort (devised by the authors and to be reported on fully in another publication*). These revealed a person of superior intelligence and imagination, well able to use these potentials despite feelings of clumsiness, inadequacy and ineptness. Many perceptions with anxiety of mangling or destruction of the body and concern about body function were present as if this were a freshly experienced threat. There was no evidence adequate to identify the patient as homosexual.

In day to day adjustments, the patient was revealed as mildly anxious, ruminative, reserved in social interpersonal relationships but competent to deal effectively with them. Diagnostically, despite the concern over castration, the patient could be considered a normal individual with anxiety features, or as a mild anxiety neurotic.

Changes in Identification

The easiest way to measure the patient's change in identification since first being seen for this research project is that in the beginning all who knew the patient, without thinking, considered her a female. Now, no one can feel the pronouns "she" and "her" appropriate. When first seen, and for some months afterward, the patient dressed in tailored slacks, brightly colored and feminine blouses with falsies underneath, and sandals, wore jewelry and lipstick, and had plucked eyebrows and long, fine, pompadoured and carefully kept, dyed, golden hair. Bit by bit, each of these was given up. He wore shoes, men's slacks, sport shirts, which, although colorful, were typical of Southern California culture. There were no more bracelets, no makeup, no dyed hair; his hair was cut short and by a barber. When going out, he wore suits and ties for the first time in his life.

The change in identification was not confined to easily modified changes in external appearance. In addition, there was a change from delicate effeminate mannerisms, in the way he spoke, walked, blew his nose, in the phrasing of words, in timber of voice and in a host of nonverbal communications which made him indistinguishable from any gentle but vigorous man. Although there were some evi-

dences of mild passive dependency, they were not sufficient even for a diagnosis of this character structure.

For the first time in his life, he became involved in an enduring relationship with a woman (who played a very significant role in assisting him in changing his identification), whom he hopes to marry if he can legally change his sex to the biologically correct one.

DISCUSSION

Although there are many aspects of interest in this case, we will restrict ourselves to only two.

The first concerns the patient's sexual identity. Should one consider him primarily identified with a homosexual or heterosexual role previous to our study? He considered himself to be a homosexual throughout his life (until the last year or so) and was likewise considered as such by his friends, by his sexual partners and by society. He identified with the mores of the homosexual, was fearful of the social consequences of such behavior, restricted his friendships almost exclusively to homosexuals of both sexes, chose his clothes on the basis of homosexual identification and was totally imbued with the homosexual milieu in which he lived for the greater part of his adult life. Thus on the one hand he has been clearly a homosexual. On the other hand, throughout this whole period he was biologically a male. It is therefore necessary, in biological terms, to consider him to have been exclusively heterosexual. With the exception of a very few transient relations with males (and none of these adult genital male contacts) and occasional dreams of this nature, he derived sexual excitement and gratification, both in fantasy and in object relationships, exclusively with females. This is not purely a semantic problem. It goes to the heart of the continuing discussion regarding problems in sexual identification: Are these profound problems in sexual identification due to constitutional causes or to identifications derived from interpersonal relationships starting from infancy and reinforced through adult life?

The material we have available does not permit an adequate answer, although it is sufficiently rich that bias on either side of the question can find comfort. The evidence is clear that from an early age, our patient, although considered a girl by his family, had some questions about his own identification. Thus from an early age he had masculine fantasies, masculine games, and took females as sexual objects. Is this to be considered the effect of subtle biological causes or can this be considered to have resulted from disturbances in the family which, in their turn, produced intrapsychic disturbance?

*Not yet scheduled for publication.

The typical "butch" female homosexual is biologically a female, imitates men and gives a history of very early homosexual leanings. Our patient had an almost identical career and was taken for a "butch" throughout his adult life. However, the quirk is that this typical "butch" is in fact biologically a male. Thus it is possible to confuse the issue of the biological etiology of homosexuality.

Our patient to all appearances was a "butch." He was different from other "butches" only in that he was biologically a male (except for the effects of castration). Thus, despite a very discrepant constitution, his sexual identity was as confused as that of a "butch." One cannot with certainty ascribe his identity primarily to his constitutional sex, since some female homosexuals take the same identity from childhood on. Nonetheless, one wonders, without adequate evidence, if this patient may not have been propelled, almost against his wishes, by his biological sex. Whether he was compelled to his sexual identifications by unconscious forces of a primarily biological nature or by unconscious forces of a primarily psychic (disturbed identifications in the family) nature has not been determined by our methods.

The second problem is that of treatment of the intersexed patient. Our patient was highly motivated, intelligent and possessed since childhood of some questions as to whether he was as normal a female as the rest of the girls he could observe. Thus, a foundation for changing to a more masculine attitude was present by the time we began working with him. Were his identifications more fixed in the direction of being a female, it is doubtful that he could have passed over to maleness so untraumatically; it is even more questionable whether he would have wanted to. It is well known that girls suffering from hyperadrenocorticism, although both chromosomally and gonadally female, will appear in all regards completely different if one was brought up as a girl and the other as a boy.⁴

It would seem wise, when one is dealing with an intersexed patient, regardless of the etiologic background, to have a careful psychological and psy-

chiatric investigation as well as a very complete physical (including endocrinological) examination. When it is determined that the person is unequivocally committed to one sex, then the greatest caution must be used before trying to disturb this commitment. However, when there is evidence that the commitment is not clearcut (as is evidenced by our patient), then an extended workup and psychiatric treatment should be invoked, with close cooperation with other specialties to assist the patient in determining on his own to which sex he would like to belong thenceforth.²

Thus, we do not fully agree with the point of view that it is advisable to transmute all intersexed patients to their somatic sex, nor do we agree with the point of view that all intersexed patients should remain in the identification which started in childhood and persisted into adulthood. We rather believe that at times the one will be indicated, at times the other, and that the essential criterion is the strength of the patient's identification with one sex or the other. It is our belief that this can only be determined with most careful psychological and psychiatric evaluation and that no plan of treatment, in intersexed children or adults, should be embarked on until the question of sexual identification is clarified.

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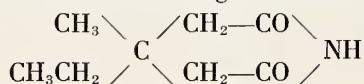
A Barbiturate Antidote

Use of Methylethylglutarimide in Barbiturate Intoxication and in Terminating Barbiturate Anesthesia

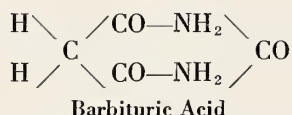
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BARBITURATES are among the most commonly used drugs in the practice of medicine, especially in anesthesiology. The degree of respiratory depression produced is dependent not only on the dosage but is also influenced by the effect of preanesthetic medication. This may be additive to the depression of respiration which accompanies the administration of barbiturate anesthesia. There has long been a need for an effective, prompt-acting barbiturate antagonist which could be used safely and routinely, particularly in emergencies, to reverse the depressant action of barbiturates.

Mikedimide® is chemically 3,3-methylethylglutarimide and has the following structural formula:



It is related to the barbiturates by a similarity of the ring system:



The exact mechanism of its action remains undetermined. Early reports seemed to suggest that methylethylglutarimide was a direct and specific barbiturate antagonist which acted as a competitive inhibitor of barbiturates. Evidence does not seem to support this idea. It is more likely that the drug acts as a central nervous system stimulant, possibly through the ascending reticular activating system. It is evident, however, that it has effect at a dosage range below that which may produce cerebral irritation.

Methylethylglutarimide has a high therapeutic index. It has been used in animal and human clinical trials in Australia, Great Britain and Europe. Experimental work in laboratory animals has demonstrated that the drug is a respiratory stimulant specifically in the presence of barbiturates. In animals, it has been shown to antagonize the effects of barbiturate

• Methylethylglutarimide was administered to 488 patients ranging in age from 7 to 89 years, in a study on sleep-reversal after barbiturate anesthesia. Sodium surital or sodium pentothal were the barbiturates used. The drug was administered intravenously in doses varying from 25 to 200 mg. Dosage below 25 mg. was found to be ineffective. Almost all patients showed signs of awakening as evidenced by the return of corneal and conjunctival reflexes, the opening of the eyes, and stirring or moving about. Many responded to questioning. Almost all showed evidence of greater responsiveness within five minutes. No untoward reactions were noted. No convulsions were produced.

Five patients ranging in age from 24 to 70 years were treated for barbiturate poisoning with Mikedimide® given intravenously in doses varying from 550 mg. to 1950 mg. All recovered consciousness within 30 minutes to an hour. No convulsions were produced.

While it is not known whether Mikedimide is a direct barbiturate antagonist, or whether it is an analeptic, it appears to be a useful drug in reversing the respiratory depression and the cerebral depression produced by barbiturate intoxication and barbiturate anesthesia.

anesthesia, halving the sleeping time. In unanesthetized animals it may produce muscle fasciculations and possibly convulsions. Methylethylglutarimide will increase the rate and depth of respiration, as well as produce a rapid return of reflexes.

The reported manifestations of toxicity have been retching, vomiting, muscular fibrillations and, on electroencephalographic tracing, the characteristic spikes of cerebral irritation. The drug is excreted unchanged in the urine.

The clinical trial of this drug in human beings has been limited, although Shaw¹¹ first reported on its use in 1954.

Wyke and Frayworth¹⁴ reported on the use of methylethylglutarimide in 52 patients anesthetized with barbiturates. They concluded that the drug rapidly changed deep levels of anesthesia to very light levels and eliminated the dangers of delayed postoperative recovery from barbiturates. Both the rate and the depth of respiration were increased. Kaufman⁷ did a controlled study of 90 patients for

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dilatation and curettement. Excluded were patients who needed any suturing and those with systemic disease. All the patients were anesthetized in the identical way, using 400 to 500 mg. of thiopental sodium, 40 mg. of gallamine and a three-to-one mixture of nitrous oxide and oxygen. Fifty mg. of methylethylglutarimide was used as antagonist. The results reported by Kaufman did not confirm earlier findings of other workers. Bentley and Savidge¹ reported on 100 cases. They administered 500 mg. of thiopental and 50 mg. of methylethylglutarimide simultaneously. With both used together there was less respiratory depression, no laryngeal spasm and recovery was quicker. They concluded that methylethylglutarimide shortens the duration of action of barbiturates without affecting the anesthetic potency.

The present study was undertaken in an attempt to clarify the effectiveness of Mikedimide (methylethylglutarimide) in terminating barbiturate anesthesia, in a large scale trial.

METHOD

Four hundred eighty-eight consecutive patients who could be anesthetized with intravenous thiamylal sodium, succinylcholine, nitrous oxide-oxygen technique were studied. The patients were accepted regardless of surgical procedure or medical condition. It was the choice of anesthesia only that determined inclusion in this series. Premedication consisted of meperidine 25 to 75 mg. and atropine or scopolamine 0.2 mg. to 0.4 mg., the dosage varying according to age and weight. All patients were anesthetized with 200 to 400 mg. of thiamylal for short procedures and as much as twice the amount of drug for more prolonged operations. Succinylcholine was used by continuous drip infusion (0.2 per cent), back titration being practiced throughout to prevent overdosage. Succinylcholine was discontinued soon enough to permit return of respiration and to permit pulmonary ventilation to be adequate without assistance. Nitrous oxide-oxygen, usually in equal parts, but in no instance less than 30 per cent oxygen, was used for analgesia. Toward the end of the operation, nitrous oxide was discontinued and the patient was permitted to breathe oxygen only for 3 to 5 minutes. In order to avoid the possible stimulus of a hypodermic injection, all anesthetic procedures were begun with a continuous intravenous drip of 5 per cent dextrose in water. The Mikedimide (0.5 per cent in a sterile saline solution) was injected into the rubber tubing which is part of the infusion apparatus. All patients were anesthetized by the same anesthesiologist.

The patients ranged in age from 7 to 39 years. Most of them were between ages 20 and 65 years.

Operative procedures varied from incision and drainage or uterine dilatation and curettement which lasted from 15 to 20 minutes, to a bilateral radical mastectomy lasting 8 hours. The following list shows the kinds of procedures and the number of each:

65 Dilatation and curettement	11 Bronchoscopy
59 Breast biopsy	10 Cervical repair
34 Radical mastectomy	10 Cystoscopy
1 Bilateral radical mastectomy	1 Foreign body in foot
3 Simple mastectomy	1 Epiphyseal separation
30 Pelvic laparotomy	3 Nephrectomy
36 Thyroidectomy	2 Nephropexy
9 Tonsillectomy and adenoidectomy	3 Mastoidectomy
26 Lumbar laminectomy	2 Mastopexy
5 Cervical laminectomy	3 Axillary dissection
26 Colon resection	3 Hip fracture
34 Cholecystectomy	3 Tendon repair
38 Hernia repair	2 Undescended testis
28 Hysterectomy	2 Removal calcific deposit of shoulder
11 Closed reduction of fracture	1 Glossectomy
8 Incision and drainage	1 Suture perineal laceration
12 Appendectomy	1 Arthroplasty of elbow
	1 Cystocele repair
	1 Otoplasty
	1 Vulvectomy

RESULTS

As has been mentioned, Mikedimide was administered by intravenous injection routinely at the end of the operation. When the study was first begun, 25 mg. was injected. This was found to be completely ineffective. When the dosage was increased to 50 to 100 mg., almost all patients (420) showed signs of arousal within one to three minutes after injection. The remainder (68 patients) required 150 to 200 mg. of Mikedimide before arousal and took between 2 and 5 minutes to react. The latter patients had received intravenously total doses of barbiturate varying between 500 and 800 mg. The majority of patients received doses between 200 and 400 mg. of barbiturate.

The criteria of arousal were:

1. The return of corneal reflexes.
2. Change in rate and depth of respiration.
3. Movement of extremities.
4. Response to command.
5. Return to consciousness.

Corneal reflexes: Barbiturates generally eliminate the corneal reflex. After injection of Mikedimide, corneal reflexes returned within 60 to 120 seconds. The corneal reflex remained active after return and no regression occurred.

Respiration: Almost immediately after injection of Mikedimide, there was evident an increase in the depth and rate of respiration. Every patient responded in this way. The increase in depth was more discernible than the increase in rate. Patients

who did not have oropharyngeal airways inserted under local anesthesia, rejected the airway after Mikedimide was administered.

Movement of extremities: This was an inconstant reaction. Only 50 per cent of the patients began to move their arms or legs after Mikedimide injection. Those who did, moved them in a coordinated manner. No athetoid movements were noted.

Response to command: Four hundred patients (82 per cent) were able to respond to the commands, "Open your eyes" and "Show me your tongue," within two minutes.

Return to consciousness: This was the most difficult phase to evaluate objectively because of the variety of criteria which can be used and which would be accepted as proof. Total orientation and awareness of the environment does not take place until 30 to 40 minutes after injection of Mikedimide. Despite the fact that 60 per cent of the patients studied could respond by asking questions such as, "Is it all over?" or "Am I all right?", almost all patients tend to regress to a state of light narcosis within ten minutes after injection of the drug. However, these patients then can be aroused or awakened very easily. They will respond to command and to the calling of their names. This makes care in the recovery room much simpler. Another aspect of the problem of consciousness involves memory. Almost all patients are amnesic for the period of recovery from anesthesia. For example, a patient who is told after breast biopsy that the lesion was benign may respond with a smile or verbal expression of joy, yet not clearly remember having been told anything, and ask again in the recovery room.

COMPLICATIONS

None of the toxic effects described in the literature,^{8,12} such as vomiting, muscular twitching, convulsions, hallucinations and psychotic episodes were observed in the present series. The doses used were far below any possible toxic range. One reaction was noted that has not been previously mentioned in the literature. It is described here because it occurred, although there are many factors involved which make indictment of the drug very doubtful. In one patient, anesthetized for cystoscopy, severe phlebitis of the lower basilic vein of the forearm developed three hours after injection of Mikedimide and lasted for two weeks. It must be stated, however, that on the previous day the patient had received an intravenous injection of radiopaque dye for intravenous pyelography and complained of pain at the site of the dye injection before he was anesthetized. It probably was ill advised to use a vein lower down in the same arm. The drugs injected through the vein which later became involved

by phlebitis, were 5 per cent dextrose in water, 350 mg. of thiamylal sodium and 100 mg. of Mikedimide. After two weeks the phlebitis, which was delimited at the elbow, subsided.

BARBITURATE INTOXICATION

Acute barbiturate poisoning is an ever increasing social and medical problem.⁶ In the last ten years there has been a rise in the number of cases of self-induced intoxication by means of barbiturate overdosage.¹³ The unconscious patient always presents a serious problem in management.⁴ It is agreed that barbiturates produce their deleterious effects in three ways: Prolonged coma; loss of homeostasis due to vasomotor depression; and respiratory depression.¹⁰ Renal failure and respiratory failure are the common consequences.⁹ Most deaths are due to respiratory paralysis.

Knowledge of the blood level of barbiturates is of very limited value in guiding the therapy in these situations. Treatment must be directed toward overcoming coma, cardiovascular collapse and depressed respiration. Adequate oxygenation and proper transport to the tissues is of prime importance. A patent airway and adequate tracheobronchial toilet must be maintained. If necessary, endotracheal intubation should be performed. Supportive intravenous therapy plus vasopressors and antibiotics may be needed. Hemodialysis may be an effective way of cleansing the blood of the barbiturates.

Methylethylglutarimide is a valuable adjunct to other methods of treatment. There is no doubt that it represents an important advance in the therapy of barbiturate coma.⁵ It is very useful in bringing patients to a safe physiological state by stimulating reflex activity and respiration. Although it does not seem to influence the rate at which barbiturates are eliminated, it does have a central stimulating action. It is twice as effective as pentamethylenetetrazol as a cerebral stimulant.² Treatment with methylethylglutarimide results in clinical improvement and concomitant change in the electroencephalogram.³

Following are brief reports of five cases of barbiturate intoxication in which the patients were resuscitated with Mikedimide:

CASE 1. The patient, a 24-year-old woman in deep coma when admitted to hospital, was supposed to have taken 2.0 gm. of pentobarbital. She was hypotensive, totally areflexic and had pronounced cardiac irregularity. Respiration was decidedly depressed. Administration of oxygen and metaraminol was begun. The condition of the patient began to deteriorate rapidly. Four hours after admission, Mikedimide therapy was begun. Within a period of five minutes, 300 mg. was injected intravenously. Respiration increased in rate and depth. Corneal reflexes re-

turned and the patient began to cough. After injection of 500 mg. of the drug in a period of ten minutes, knee jerks could be evoked. Over a period of two hours, 1,950 mg. of Mikedimide was administered. All reflexes returned and the patient began to open her eyes. She no longer tolerated pharyngeal suction without objecting. Respiration was adequate and the patient had been brought to a safe state. Four hours after Mikedimide administration was begun she responded to her name and could speak although she was very reluctant to do so. She recovered completely.

CASE 2. A 30-year-old woman was admitted to the hospital eight hours after she was supposed to have taken a large quantity of secobarbital. Analeptic therapy had produced no effect. She was entirely areflexic. Mikedimide therapy was then begun and after 250 mg. was injected intravenously, the rate and depth of respiration increased and the corneal reflexes returned. A total of 900 mg. was administered over a period of one hour and the patient was by then reacting to the calling of her name. She recovered completely.

CASE 3. A 34-year-old woman was admitted in coma presumably owing to pentobarbital intoxication. Within an hour after administration of 550 mg. of Mikedimide, there was a return of reflexes and normal respiration. Consciousness had returned. The patient recovered completely.

CASE 4. A 50-year-old woman was admitted in deep coma. Respirations were very shallow. Supportive therapy was begun but the patient did not respond. Four hours after admission, 650 mg. of Mikedimide was injected intravenously. Recovery of reflexes, improvement of respirations and return of awareness occurred within one hour.

CASE 5. A 70-year-old man was admitted in deep coma due to phenobarbital intoxication. He was supposed to have taken 1.5 gm. of the drug. Reflexes could not be evoked. Supportive therapy was begun and Mikedimide was administered. After 300 mg. of the drug had been injected, the patient began to react. Respirations had increased in rate and depth and corneal reflexes returned. A total of 650 mg. of Mikedimide was given and the patient was returned to a safe state; respiration was adequate and reflexes active, and there was response to auditory stimuli. The patient recovered completely.

DISCUSSION

The action of Mikedimide in counteracting respiratory depression is very striking. It is very unlikely that methylethylglutarimide acts by competitive inhibition of barbiturates in the same way

that nalorphine does against morphine. Nevertheless, Mikedimide will stimulate respiration and produce a state of wakefulness. Barbiturates not only depress the response of the respiratory center to carbon dioxide but probably produce sedation by interfering with the activity of the ascending reticular activating system, which accounts for the patient's loss of contact with his environment and the diminution of reflex response to stimulation.

Methylethylglutarimide is not a specific barbiturate antagonist but may be considered as a possible antidote. It most likely acts as a reticular stimulant by increasing reticulocortical and reticulospinal activity. The drug reverses the neurologic depression resulting from barbiturate anesthesia and the deep levels of narcosis resulting from barbiturate intoxication. There is one drawback to its use, as with all stimulants—namely, a tendency toward regression to the sleep state. However, when this does occur, patients will respond to command and to superficial stimulation.

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Undergraduate Psychiatric Education

Senior Medical Students Study Patients with the Clinical Team

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THIS PAPER describes a recent change in the instruction of senior medical students at the University of California Medical School, one of the many experiments in undergraduate psychiatric education being carried out throughout the country.¹ A number of definitions of the goals of such instruction have been made. Our statement of goals is as follows.³

"The competences of a graduating senior in psychiatry are those which we all hope a good physician might have at the beginning of his fifth year in medicine. They, therefore, include such grounding in the basic sciences, as applied to human disease and to disorder of functioning, that the young physician is ready to begin to study with his patient the nature of the complexity of external and personal factors that determine the illness, so that it becomes progressively clearer to both.

"To obtain his doctorate in medicine, the student will have learned to obtain the history of a patient's present and past illnesses and to have acquired skills in physical diagnosis, supplemented by clinical observation and the evaluation of special laboratory tests. To attain the competences in psychiatry being discussed, he needs to learn, in addition, the skill of interviewing patients to elicit in detail the minutiae of a personal life experience by practice and precept.

"Under the term *interviewing* is included a fairly well integrated skill to obtain an impression not only of the illness, but also of the person who complains of it. Although this is by now in psychiatric and general medicine circles a truism, nevertheless an effective interview with a patient would: (a) Not obstruct a patient's impulse to tell of his illness fully, and yet would obtain all the essential facts of a complete medical history; (b) help the patient overcome any of his reluctance or anxieties about telling his story as he may; (c) reveal as much of the entire complex of the physiologic disturbance as possible, and also the essential facts of the patient's

• A course in psychiatry for senior medical students, designed to give all members of the class some direct experience, particularly in therapeutic interviewing as well as in total psychiatric study of patients by the clinically integrated work of medical specialists, psychiatric social workers, and clinical psychologists in collaboration with psychotherapeutically trained and experienced psychiatrists is conducted in the following manner: A third of the class, about 25 students, is divided into four sections of six or seven members, and each section attends five hours one forenoon a week for approximately three months. Each student, after an initial demonstration interview by the instructor, sees weekly the same two clinic patients alone, for 45-minute individual interviews, followed by a one and a half hour supervisory session. After this a 50-minute seminar or treatment review conference is followed by a similar period for writing records of interviews and summaries of the therapeutic work. Of four seminars, two are conducted by the psychiatric faculty, and one each by the social worker and the psychologist. Each student reads a written summary of all his interviews with one patient for discussion by his colleagues in the section and by the faculty from all three disciplines.

current life situation, and the chronological relation of the illness to any recent specific changes in it; (d) obtain a sufficiently adequate outline of the patient's total biography to get some impression of the relative balance of ego integration and psychopathology, and to place the current illness in this perspective.

"All this requires that the young physician have a sufficient grasp both of psychodynamics and some basic operational skill in elementary psychotherapeutic procedures. This rudimentary psychotherapeutic skill necessarily includes some degree of objectivity with regard to the phenomena of transference. These competences also imply the ability to discriminate positively in some measure, not merely by exclusion of organic disease, between the psychosomatic reactions and nonneurotic processes; and to estimate the degree of psychopathology with a fair amount of accuracy. They imply, too, some knowledge and skill of referring patients to agen-

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cies best equipped to serve the needs of the individual, or to psychiatric specialists, and how to collaborate with them when necessary."

An opportunity to take another step toward teaching these competences occurred in May of 1956 when the course in psychiatry for senior medical students was revised to fit a new curricular distribution of time. This change gave the students the same amount of time in psychiatry but distributed it over a period of eleven and a half weeks instead of three weeks. At the same time the course, which had been given for 12 years at the Langley Porter Neuropsychiatric Institute, was moved to the Adult Psychiatry Clinic of the University of California Medical Center. This move was suggested because the patients available for study in this setting, more than those seen in an outpatient psychiatric clinic, resemble patients seen in general medical practice.

On the basis of experience in transmitting the skills, referred to before, in postgraduate training,² our course was organized with individual supervision as its base. Thus an important step was the recruitment of faculty. We found many psychiatrists, experienced in psychotherapy, eager to participate in this form of undergraduate teaching, and were able to assemble a faculty of 32 for a section of 26 students. Organization and continuous effort are necessary on the part of the academic faculty to integrate a large clinical faculty. This is partly achieved in our course by a series of meetings during the year with the faculty of each section and a final annual dinner meeting with the faculty for the entire course.

The senior academic year is divided into three periods of eleven and a half weeks. A third of the class, roughly 26 students, is assigned to psychiatry in sections of six or seven for one morning a week. Since the plan is the same for each, a period's work of only one section will be described. The day before the first day of the section work, the students are given mimeographed material and a brief orientation talk concerning the course. We have made a chart to show the organization of the course:

Hour	Week										
	1	2	3	4	5	6	7	8	9	10	11
8:00											
8:45	Student with Patient No. 1										
9:30	Student with Patient No. 2										
11:00	Student with supervisor										
12:00	Seminars					Treatment Reviews					
12:45	Writing period										

Across the top is the designated space of time for the period and at the left hand side are the times when shifts in activities occur.

Beginning at 8 a.m. on the first day, the student and his supervisor meet for 15 minutes to get acquainted. Then the supervisor introduces the stu-

dent and his first patient and demonstrates to the student over the next 45 minutes his technique of psychiatric interviewing. Following this, supervisor and student have a half hour to discuss the interview. At 9:30 a.m. the same process is repeated with a second patient, followed this time by a 45-minute period between supervisor and student. At 11 a.m., in the first 50-minute seminar, a senior faculty member describes the organization of the course, giving details of the requirements, including attendance at meetings, written work, work with patients and suggested reading. An opportunity is given for the students to ask questions.

A period is set aside for writing following the seminar. Each student is expected to describe in detail and in chronological order what occurred during each interview with his patients. These notes acquaint the student's teacher with what happened during the interview and are useful to the student in furthering his understanding of psychopathology, psychodynamics, therapeutic possibilities in interviewing and in the preparation of his treatment review write-up. They are initialed for completion by the section supervisor before the student leaves each day at 12:45 p.m.

Each day after the first, the morning period is arranged in the following way. The student sees each of his two patients for 45 minutes. At the start of his hour and a half individual supervisory session, he presents his longer notes of the preceding week's interviews to his psychiatrist-supervisor-teacher while he writes a brief note in the patients' clinic charts concerning the interviews just completed. The teacher initials the clinic chart notes and then uses the majority of the time to discuss with the student his work with his patients.

On the second day the students have a seminar with the chairman of the Department of Psychiatry, who presents a hypothetical case encountered in general practice and encourages the students to describe their approaches to a patient with psychological conflicts.

The third seminar is given by a psychologist in the Department of Psychiatry who discusses the role of the clinical psychologist and his contribution to the work with patients. Psychological test materials in common use are demonstrated and discussed. One or two examples of psychological testing are provided, using patients chosen from each daily section, before the student presents his treatment review. The results of the tests are discussed with the individual student and he is encouraged to incorporate the findings into his treatment review presentation.

The fourth seminar is given by a member of the Psychiatric Social Work staff. The social worker's

purpose is to provide the students with a brief survey of the philosophy, scope, training and problems of the profession of social work and a beginning knowledge of and experience with community resources and social services.

From this point, the seminars take the form of treatment reviews in which each student is given opportunity to present to his colleagues and members of the faculty his work with one of his patients. He reads a written summary divided into three parts: introductory paragraph, patient's biography and an account of his work with the patient. He is encouraged to present his data in a period no longer than 30 minutes so that the remaining 20 minutes can be used for discussion. The supervisor of the student making the presentation, in addition to other faculty, attends the review. Participation of all students is encouraged by the faculty member who is chairman. In this way the students' learning is broadened by hearing of the work with other patients, and the faculty members have an opportunity to teach and keep abreast of the progress of the work.

Over half of the patients dealt with are referred from within the University Medical Center as a part of their total medical treatment; the rest from the community. About a third come as self-referrals, while another third are referred following psychiatric evaluation in the Adult Psychiatry Clinic. The students themselves refer a few patients from those they treat in the Medical Clinic. We charge a fee scaled to the patient's ability to pay and we accept only patients we consider unable to afford private psychiatric treatment or for whom private treatment is not feasible. Some patients who can afford private medical care are unable to afford psychiatric treatment. Because of this in some instances the students work in collaboration with private physicians in treating their patients.

An attempt is made to have at least one family problem involving an adolescent or preadolescent in each section so that some aspects of child psychiatry might be brought to the attention of the students. No children are accepted who might need playroom therapy, for such facilities are not available.

In the first interview and study of each patient referred to the course, the social worker attempts to formulate with the patient the psychological problems for which he wishes help and to consider with him some of the interrelations of the social, environmental and financial factors of his situation. The manner in which work in the program proceeds, including the fact that his therapist will be a senior medical student working under psychiatric supervision, is explained. A fee for the interviews is set. Groundwork is laid for whatever cooperative work

may be indicated with community social agencies. A general agreement is reached with the patient as to what he hopes to gain from the work and what will be expected of him. The goal of the study is to offer the patient an experience in a therapeutic relationship which will nurture his motivation for emotional maturation.

As the person through whom the patients maintain a continuing relationship with our staff, and as the course's link with the community, the social worker is offered daily points of contact with the students in their work. These contacts he attempts to utilize to further their learning of a method of helping patients with emotional problems. The social worker's contribution is woven into the work by chart notes, individual contacts with students and patients, brief participations in student-supervisor conferences and regular attendance at treatment review sessions.

Our experience in the course has been too short to permit conclusions as to its effectiveness with patients and students. Thus far we have observed some changes in teachers, students and patients. Teachers have gradually taken more responsibility by more frequently assuming the chairmanship of the meetings at which students present their reviews of treatment. Some teachers have indicated a decrease in the serious doubts that they had about student effectiveness in working with patients with certain kinds of clinical syndromes. Students have stated both spontaneously and upon being questioned that they benefited from their experience. They do not seem so puzzled about the work of psychiatrists and seem somewhat clearer about the nature and possibilities of psychotherapy.

Our patients have kept 85 per cent of appointments that were possible for them to keep and have tended gradually to remain longer in treatment with the students. Over 20 per cent of the patients remained in treatment for all three periods during the second year of the course as compared with 15 per cent the first year. In all three years we have noted a slight increase in the proportion of new patients remaining for the entire first period, ranging from about 77 per cent in the first year to 85 per cent in the third. (Two factors that must be considered in this are some increase in the selectivity of patients accepted for treatment and a smaller group of new patients each year.) The median number of interviews for which the students saw their patients increased from nine in our first year to 12 in our second.

We have heard of a good deal of progress in the situations of some of our patients. One profoundly disturbed man who had spent long periods in a state hospital has returned to work; other patients have been referred to private physicians after improve-

ment in their income, and still others have improved their grades in school. We have also noted improvement of physical symptoms—relief of anemia in one case. In other cases a diagnosis of organic disease was made, with consequent referral of the patients to other clinics for appropriate treatment. We have not yet heard of suicide or homicide by any of the patients assigned to the students.

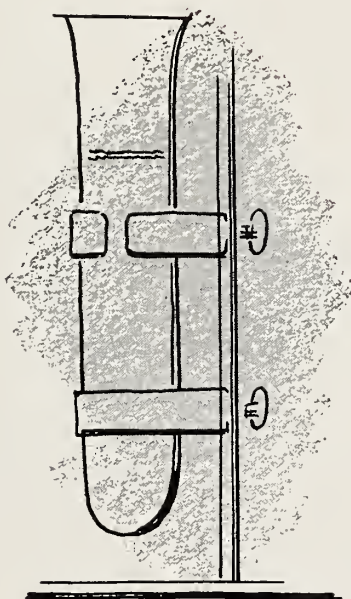
We are not under any illusions that the students have learned the technique of therapeutic interviewing. We also realize that so short a time does not permit any resolution of the students' counter transference problems. We do feel, however, that the

majority of students have taken a few steps toward the goals mentioned at the beginning of this paper.

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Thioridazine (Mellaril®) in Psychiatric Patients

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THIORIDAZINE (Mellaril®) is a new phenothiazine tranquilizer of the piperidine type. In comparison with phenothiazine derivatives currently in use, its chemical structure most resembles that of mepazine. However, there are two important differences (Figure 1). First, the piperidine ring is linked to the phenothiazine nucleus by an ethyl, rather than a methyl, group. Second, the phenothiazine ring is substituted at the 2-position with a thiomethyl group, rather than being unsubstituted.

Pharmacologic studies indicate that, in common with other phenothiazines, thioridazine has weak anticholinergic and antihistamine effects, moderate adrenolytic and spasmolytic effects and some degree of antagonism to serotonin.¹⁰ Of greater clinical interest is that the drug also produces manifest sedation, potentiation of anesthesia and inhibition of amphetamine toxicity—all properties common to “tranquilizing agents.” In two respects, thioridazine differs somewhat from other phenothiazine tranquilizers. Rats conditioned against electric shock by an auditory stimulus show no alteration of the flight reaction under treatment with the drug. However, a manifest sign of nervous tension (defecation) is reduced without inhibition of the defensive reflex. Drug-induced “catalepsy” (maintenance of abnormal positions) is not produced by thioridazine as it is by other phenothiazines. This phenomenon may be related to drug-induced extrapyramidal effects, which are conspicuously absent with thioridazine.

As yet, few clinical studies of the drug have been reported. A double-blind controlled study of psychiatric out-patients indicated improvement in 12 of 15 patients treated with the drug. This response was significantly better than was obtained from a less active phenothiazine or with placebos for each of these drugs. The dosage used was modest, not exceeding 75 mg. daily, and side-effects were minimal.³ Good therapeutic results were obtained in another study involving almost 200 patients with psychotic and functional disorders. Despite a wide range of dosage, no extrapyramidal effects, agranulocytosis or jaundice were observed.⁸ A small study of 29 patients indicated that the drug was effective in a number of psychiatric disorders, including

• Thioridazine (Mellaril®) was given to 104 psychiatric patients with a variety of illnesses, chiefly schizophrenic reactions. Of 14 patients treated in a double-blind study with successive one-month courses of drug or placebo, nine improved most on the drug and only one on placebo. These results, although limited, confirm a definite therapeutic action for this compound.

Nine of 24 patients were significantly improved after treatment with thioridazine for an average of four months following previous treatment with other phenothiazine tranquilizers. Of ten patients treated intensively with thioridazine after they had not responded to other phenothiazine drugs, two were definitely improved and three were slightly improved. Twenty-eight of 56 patients treated from the outset with thioridazine were significantly improved after an average of six months. Most patients received from 100 to 400 mg. daily. These results were comparable to those obtained from other potent phenothiazine tranquilizers. The drug is particularly advantageous for a group of schizophrenic patients who are sometimes made worse by other phenothiazine derivatives or rauwolfia alkaloids. It should also be suitable for treating patients with psychoneuroses and chronic brain syndromes.

Only minimal side reactions were observed, chiefly drowsiness, dizziness and nasal stuffiness. Weight gain occurred frequently during treatment.

schizophrenic reactions and psychotic depressions. Only drowsiness and dizziness were observed as side reactions.¹

METHOD OF STUDY

The present study included three groups of patients who were confined for treatment in a Veterans Administration hospital. The first was treated with either thioridazine or a placebo alternately for a brief period. The second group was treated with the drug after having previously received other phenothiazine tranquilizers (usually chlorpromazine or prochlorperazine). The third group of patients was treated only with thioridazine.

Fourteen patients were treated in a double-blind study. Each patient was issued either a bottle of placebos or of 50 mg. thioridazine tablets, whether the one or the other being known only to the pharmacist. The patient's physician was free to prescribe up to six of the tablets daily. After a month of

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TABLE 1.—Results of Double-Blind Studies of Thioridazine in 14 Patients

Diagnoses	Improved on Drug	Improved on Placebo	Improved on Both	Unimproved on Either
Schizophrenic reaction.....	5	1	3	1
Psychoneurosis.....	1	0	0	0
Personality disorder.....	1	0	0	0
Affective disorder.....	1	0	0	0
Chronic brain syndrome, various types.....	1	0	0	0
Total.....	9	1	3	1

treatment with the tablets first issued, tablets of the alternate kind were provided for each patient and were used for another month. Patients were evaluated at the beginning of the trial and at the end of the first and second months of treatment. Evaluation was made by psychiatric interview, by consultation with ward personnel and the completion of a Multidimensional Scale for Rating Psychiatric Patients.⁹

Thirty-four patients previously treated with other phenothiazine drugs and 56 patients treated initially with thioridazine were chosen from a variety of nosologic categories, although most were chronic schizophrenics. All but one were men. Ages ranged from 18 to 72 years, the median being 36 years. The duration of illness varied between three months and 40 years. Only seven patients had been ill for less than a year, while 38 had been ill for more than ten years. The dose of thioridazine used in these patients was flexible, varying from 50 to 2,000 mg. daily.* The majority of patients received from 100 to 400 mg. daily, though 17 patients never received more than 75 mg. daily and only 24 received more than 400 mg. daily. Treatment lasted from a minimum of two months to a maximum of ten months, the majority of patients having been treated for six months.

Evaluation of these patients was made on the basis of the ward psychiatrist's clinical opinion of change, consultation with ward nursing personnel, an independent psychiatrist's evaluation and completion of either the Multidimensional Scale or an abbreviated Hospital Adjustment Scale.² From all these sources of information a comprehensive rating was made of *decided*, *moderate* or *slight* improvement or *unimproved* or *worse*. An effort was made to maintain some internal consistency with the evaluation of previous drug studies at our hospital.^{5,6,7} A rating of *slight* improvement implied little more than partial sedation of the patient and quieter ward behavior. *Moderate* improvement indicated either behavioral improvement which permitted the patient to participate in activities programs or psychotherapy, or social improvement which permitted the granting of ground privileges or passes from the

hospital. It was also based on increased ability to create interpersonal relationships, lessening of bizarre thinking, and evidence of some insight. *Decided* improvement meant that the patient had changed greatly according to the above criteria and was being considered for release from the hospital. As with previous studies, only moderate or decided improvement was considered significant as a therapeutic effect attributable to the drug, not likely to occur spontaneously.

RESULTS

The results of the double-blind study are shown in Table 1. Four outcomes were possible: Improvement while receiving either the drug or the placebo, improvement from both, or lack of improvement from either. Nine patients improved while receiving the drug, one while receiving placebo, three equally from each, and one was unchanged during either treatment. Although small, this study demonstrated a definite therapeutic effect from the drug.

The results of treatment of 24 patients with thioridazine following other phenothiazines are shown in Table 2. Only nine of these patients improved significantly with the additional treatment. Three of the five rated as "unchanged or worse" were worse. In most cases the dose of drug used was comparable milligram for milligram with chlorpromazine. It should be noted that in some of these cases the first tranquilizing agent had not been used for optimal duration before the switch was made to thioridazine. However, in some cases patients definitely improved on thioridazine after having been refractory to the previous treatment.

Ten additional patients were treated intensively with thioridazine after long-term unsuccessful treatment with chlorpromazine or other phenothiazine tranquilizers. The majority of these patients had been treated with from 600 to 900 mg. of chlorpromazine daily for protracted periods with inadequate improvement. With no interruption of treatment, these patients were switched to thioridazine in initial doses of 100 mg. three times daily, which were rapidly built up so that at the end of 10 to 14 days a peak dosage of 1,600 mg. daily was achieved. This level of dosage was maintained for a minimum

*The limitation of six tablets daily applied only to the group in the previously mentioned double-blind study.

TABLE 2.—Results of Treatment of 24 Psychiatric Patients with Thioridazine Following Other Phenothiazine Tranquilizers

Diagnoses	Results				Total
	Decided Improvement	Moderate Improvement	Slight Improvement	Unchanged or Worse	
Schizophrenic reaction.....	2	6	9	4	21
Chronic brain syndrome, various types.....	0	0	1	0	1
Mental deficiency.....	0	1	0	1	2
Total.....	2	7	10	5	24

TABLE 3.—Results of Treatment of 56 Psychiatric Patients with Thioridazine

Diagnoses	Results				Total
	Decided Improvement	Moderate Improvement	Slight Improvement	Unchanged or Worse	
Schizophrenic reaction.....	6	12	13	4	35
Chronic brain syndrome, various types.....	2	3	5	4	14
Psychoneuroses.....	0	3	1	0	4
Affective disorders.....	0	2	0	1	3
Total.....	8	20	19	9	56

of three weeks, and the dosage then was gradually reduced if reduction was indicated. Of the ten patients treated in this manner, two showed significant improvement which exceeded that obtained from any previous treatment program, while three others were slightly improved. All patients tolerated the intensive treatment program well without evidence of orthostatic hypotension, excessive somnolence, seizures or the extrapyramidal syndromes. During this period of intensive treatment, urine specimens were obtained for qualitative measurement of the excretion of the drug, using the acid-ferric chloride test.⁴ At peak dosage levels most patients showed constant elimination of the drug in the urine, suggesting that a state of saturation had been obtained. However, no linear relationship between positivity of the urine test and dose of drug was obtained.

The results of treatment of 56 patients with thioridazine without previous phenothiazine treatment are shown in Table 3. Twenty-eight of these patients were significantly improved. Considering the chronicity of disease in most of these patients, these results are considered comparable to those expected in our patients from other potent therapeutic agents. No definite correlation could be made between dose and the result obtained, again emphasizing the fact that the dose must be fitted to each patient. Sixteen of these patients left the hospital subsequent to this treatment.

Twelve patients who had been chronically treated with doses of 200 to 500 mg. daily of thioridazine were given acute single doses of 500 mg. of the drug in addition to their usual dose. Measures of blood pressure were obtained at half-hour intervals over a 6-hour period, both in the sitting and standing position. Electroencephalographic tracings were run on ten patients before and 4 hours after this dose. All 12 patients had drowsiness, ranging from slight

to moderate in degree. During the peak effect several of the patients slept lightly but could be easily aroused. The majority had nasal stuffiness. Other clinical effects noted were flushing of the skin or conjunctival injection and dry mouth. Blood pressure fell in four patients, the fall not exceeding 30 mm. systolic or 10 mm. diastolic in either position. One patient had a mild syncopal reaction in the standing position during the peak of the drug effect. In this case the electroencephalogram changed from a normal pattern to one with paroxysmal focal bursts of slow waves (Figure 2). Electroencephalographic abnormalities were also noted in several of the other patients. Similar electroencephalographic changes have been noted by us previously in patients treated for long periods with doses of chlorpromazine or reserpine.

Side reactions were minor and infrequent. Some patients complained of drowsiness or dizziness, but in neither instance were the complaints severe. No postural hypotension was observed in patients treated with the usually small initial doses in this study. At large doses, minor degrees of nasal congestion were evident, although less than from equivalent doses of chlorpromazine. No allergic reactions of any kind were observed. Complete blood cell counts were done before and at weekly intervals during the first 12 weeks of dosage. In two instances the absolute neutrophil counts dropped below our arbitrary limit of 1,800 per cu. ml. and the drug was discontinued. In both cases subsequent observation indicated a periodic neutropenia completely unrelated to drug administration. No cases of clinical jaundice occurred. Adverse central or autonomic nervous system effects were conspicuously absent. No extrapyramidal effects or seizures were observed despite a dose range which should have produced these effects in some patients. Excitement (aka-

thisia) was also absent as a drug effect, leading one clinician to observe that "at least the drug doesn't make patients worse if it doesn't make them better."

Weight gain was observed in 42 of 59 patients whose weight was observed. The mean gain was 9.5 pounds. Only four patients lost weight while receiving the drug. Correlation between weight gain and clinical improvement was not especially high.

DISCUSSION

Thioridazine is an active therapeutic agent. The results with this drug approximate our current experience with other phenothiazine tranquilizers. It is effective in a variety of psychiatric disorders, including schizophrenic reactions.

The clinical effects of thioridazine differ from those of other phenothiazines. As with mepazine, clinical sedation is less than that from chlorpromazine at equal doses. In many clinical situations some degree of sedation is desirable, in which case chlorpromazine or like drugs may be preferred. At the same time, thioridazine has none of the "stimulating" effects of some of the piperazine derivatives of phenothiazine such as prochlorperazine, perphenazine, thiopropazate and trifluoperazine. Some patients, particularly retarded, inert schizophrenics, may benefit from this action, but for others the restlessness and excitement can only be regarded as unpleasant and possibly harmful. The absence of extrapyramidal reactions from thioridazine, in which the drug differs even from mepazine, is an advantage. The contention, now fading, that such effects are essential for therapeutic activity in schizophrenics is not supported by the present study. Indeed, most clinicians would willingly give up the extrapyramidal syndromes, which are bothersome to the patient, limit the extent of therapy or require supplementary drug treatment.

The type of schizophrenic patient most likely to benefit from thioridazine is neither the acutely disturbed patient (who does better with a drug with more sedative properties) nor the chronic "wall-flower," who may benefit more from the "stimulating" phenothiazines. The schizophrenic who responds best to thioridazine is one with relatively mild psychosis, with symptoms of anxiety and somatic complaints, and with retention of insight. Such patients are frequently made worse by treatment with other phenothiazine drugs or rauwolfia alkaloids. In these patients the specific tranquilizing

effect of thioridazine may control symptoms while permitting benefit from other treatment measures.

Despite the unimpressive results from treating patients with anxiety reactions and chronic brain syndromes in this study, we believe that thioridazine may have much to offer in such cases. In the present study the patients in these categories were especially difficult, our judgments about changes especially guarded, and our dosage generally quite conservative. In different circumstances the results might have been much better. The particular type of tranquilizing effect of this drug as well as the absence of severe central or autonomic nervous system side reactions should make it highly suitable for such patients.

One is always hesitant to proclaim that any new agent does not produce certain complications, especially on the basis of limited experience with it. In regard to jaundice and agranulocytosis, we believe all phenothiazine derivatives still must be considered suspect. The frequency of these complications varies widely among drugs of this type and is often so rare as to be almost negligible. Thioridazine may very well prove to be in the latter category.

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Acute and Chronic Asthma

Treatment with Theophylline in Hydro-Alcoholic Solution: Clinical Evaluation and Pulmonary Function Studies

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THEOPHYLLINE IS OF GREAT VALUE in relaxing the bronchospasm of asthma. Waxler and Schack⁵ showed that in acute cases the effective blood level was 6 micrograms or more per milliliter. In order to obtain this level rapidly, they noted, it was necessary to give 250 mg. of aminophylline intravenously. When aminophylline was taken by mouth in the usual tablet form, the theophylline level in the blood a half hour after ingestion was only 2 mcg. per milliliter.

To avoid the difficulty of intravenous administration, advantage may be taken of the observation by Schluger, McGinn and Hennessy³ that theophylline in an alcohol-water solution is rapidly absorbed from the intestinal tract.* The preparation they studied, Elixophyllin, contains in each 15 cc. (one tablespoon) 80 mg. of theophylline, which is equivalent to 100 mg. of aminophylline. In addition, each 15 cc. contains 3 cc. of ethyl alcohol, and flavoring agents.

Seventy-five cubic centimeters of Elixophyllin (400 mg. theophylline) taken by mouth was followed by mean theophylline blood levels of 8.0 mcg. per milliliter in 15 minutes, 10.3 mcg. per milliliter in 30 minutes and 11.0 mcg. per milliliter in one hour. In contrast, ingestion of 500 mg. of aminophylline in tablet form resulted in theophylline levels of 1.1, 3.8, and 7.2 mcg. per milliliter in 15, 30 and 60 minutes, respectively. Increasing the dose of aminophylline tablets usually caused gastric distress.

Because of the potential usefulness of a rapidly acting bronchodilator that can be taken by mouth, a study of the use of Elixophyllin in two groups of patients, one with acute asthma and the other with chronic asthma, was carried out.

ACUTE ASTHMA

Materials and Methods

Thirty-five patients, 13 to 74 years of age, who came either to the Los Angeles County General Hospital or to the author's office cooperated in this part

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*The preparation they studied was Elixophyllin, a product of Sherman Laboratories, whose support made this study possible.

• A flavored solution containing 80 mg. of theophylline and 3 cc. of ethyl alcohol per 15 cc. was given orally to 31 patients with acute asthma to terminate the attack. Thirty patients with moderate to severe chronic asthma were alternated for three or four weeks on daily multiple doses of either the theophylline solution or a placebo.

In the acute cases three-second Vital Capacity increased by 33.8 per cent and Maximal Breathing Capacity by 30.2 per cent in one hour after taking 60 cc. to 75 cc. of the theophylline solution. When placebos were given, both measures of lung function declined during the first half hour.

Seventy-one and a half per cent of patients with acute cases felt moderate to complete relief of symptoms. In persons with chronic asthma the regular use of the theophylline solution did not change the frequency of asthma in most cases, but it decreased the severity in 59 per cent of cases. The values for three-second Vital Capacity and Maximal Breathing Capacity rose only a little.

Gastric irritation was noted in one-third of the chronic cases and one-fourth of the acute cases. This could be reduced by appropriate measures.

of the study. Patients who were in severe status asthmaticus with dehydration, or who had obvious signs of infection, or who had been given aminophylline within two hours were excluded. In the group selected there were 15 males and 20 females, all of whom had had moderately severe to severe asthma for at least two years. The majority were between 40 and 60 years of age.

As soon as the patient had been examined and found acceptable for the study, tracings were made of the 3-second vital capacity (timed vital capacity or T.V.C.) and the 15-second maximal breathing capacity (M.B.C.), using either a Stead-Wells or Collins 13-liter recording respirometer. Each patient was then given either Elixophyllin or a placebo. Men were given 75 cc.; women and older children received 60 cc. The placebo used was flavored to resemble the base of Elixophyllin, and contained 3.5 mg. of quinine hydrochloride per 15 cc., to equal the bitter taste of theophylline. The amount of quinine was only a small fraction of the least medicinal dose. The placebo in this part of the study also contained 20 per cent ethyl alcohol.

At the beginning of the study alternate patients were given Elixophyllin and placebos. If the patient's condition did not improve in a half hour after the placebo, he was given an equal amount of Elixophyllin. As the first ten controls showed no improvement or got rapidly worse in the half hour after the placebo was given, it did not seem worth while continuing the placebo test in acute cases. The alcohol content and the factor of suggestion appeared to have no effect.

Pulmonary function readings were taken 15 minutes, 30 minutes, one hour, two hours (and in some cases three to six hours) after the single dose of Elixophyllin and at 15 and 30 minutes after the placebo. Several days later, when the patient had returned to his usual condition, another set of readings was taken.

The actual readings for T.V.C. and M.B.C. were converted to "per cent of expected normal" for each patient, using the formulae of West⁶ and Motley.²

Results

Relief was judged as *complete* if symptoms had cleared in one hour, *pronounced* if no further treatment was needed but some wheezing persisted, *moderate* if air hunger was relieved but epinephrine was needed for residual wheeze and cough, and *slight* if the patient felt a little better and had a measurable increase in lung function.

Results in terms of degree of relief are shown in Table 1. Complete relief was the exception. About one third of the patients were relieved to the extent that no other medication was needed for the moment, and another one third required only a small amount of supplemental medication. The remaining third of the group received little or no benefit. The patients given placebo showed no improvement in symptoms or measurable lung function.

The average values for T.V.C. and M.B.C. at intervals of 15, 30, 60 and 120 minutes after Elixophyllin are plotted in Chart 1. The initial values of each function were low for the group as a whole—only 37.7 per cent and 29.5 per cent, respectively, of expected normal. As a matter of interest the curve of blood theophylline after 75 cc. of Elixophyllin, as determined by Schluger, McGinn and Hennessy,² was included in the graph on a separate scale. The parallel between the theophylline level and the change in average lung function was striking. This depression of lung function was consistent with the severe symptoms present. Table 2 gives the values from which Chart 1 was drawn.

On the average, improvement was noticeable within 15 minutes and reached its peak in around one hour. Subsequently, the average improvement declined, although not in all cases were readings lower at two hours than at one hour.

TABLE 1.—Relief of Acute Asthma in 35 Patients Treated with Elixophyllin and Placebo

Degree of Relief*	Elixophyllin		Placebo	
	No. Cases	Per Cent	No. Cases	Per Cent
Complete	2	5.7	....	....
Pronounced	11	31.5	....	....
Moderate	12	34.3	....	....
Slight	8	22.8	....	....
None	2	5.7	10	100†

* Criteria given in text.

† Only ten patients given placebos.

TABLE 2.—Timed Vital Capacity and Maximal Breathing Capacity (Average Values) as Per Cent of Predicted Normal in 35 Patients with Acute Asthma Treated with Elixophyllin

Time After Drug Given	Per Cent of Predicted Normal	
	3-Sec. T.V.C.	M.B.C.
0	37.7	29.5
15 min.	41.3	32.0
30 min.	47.0	35.8
1 hr.	50.4	38.4
2 hr.	47.1	35.5
After recovery	64.4	55.5

The values for T.V.C. and M.B.C. taken after recovery from the acute attack show that there is constantly present in these cases a large measure of impairment in lung function.

Although not apparent from the average figures, ten patients (29 per cent) showed slightly poorer function at 15 minutes after Elixophyllin than before taking it, and five (14 per cent) were still slightly below initial reading at 30 minutes. All these patients had responded by the end of an hour. Differences in rate of absorption may account for the slow response. But it could also be explained by assuming that factors other than bronchospasm are causing part of the obstruction to air flow.

The per cent of change of the T.V.C. and M.B.C. after Elixophyllin is given in Table 3. These values (for T.V.C.) compare well with the improvement after Elixophyllin noted by Spielman.⁴ In his series of 20 patients with acute asthma, vital capacity increased 39 per cent.

The most prominent complaint about Elixophyllin in the acute cases was burning in the stomach with or without some nausea. Nine, or about twenty-five per cent, of the patients mentioned this. Only one patient actually vomited, and was excluded from this series. Feeling light-headed or dizzy was a frequent but minor complaint, made only by women patients. Two women went through a weeping spell shortly after taking 60 cc. of Elixophyllin, but soon calmed down.

The data presented in this section suggest that on the average Elixophyllin relieves bronchospasm and increases pulmonary function in patients who are having acute exacerbations of asthma. After a single

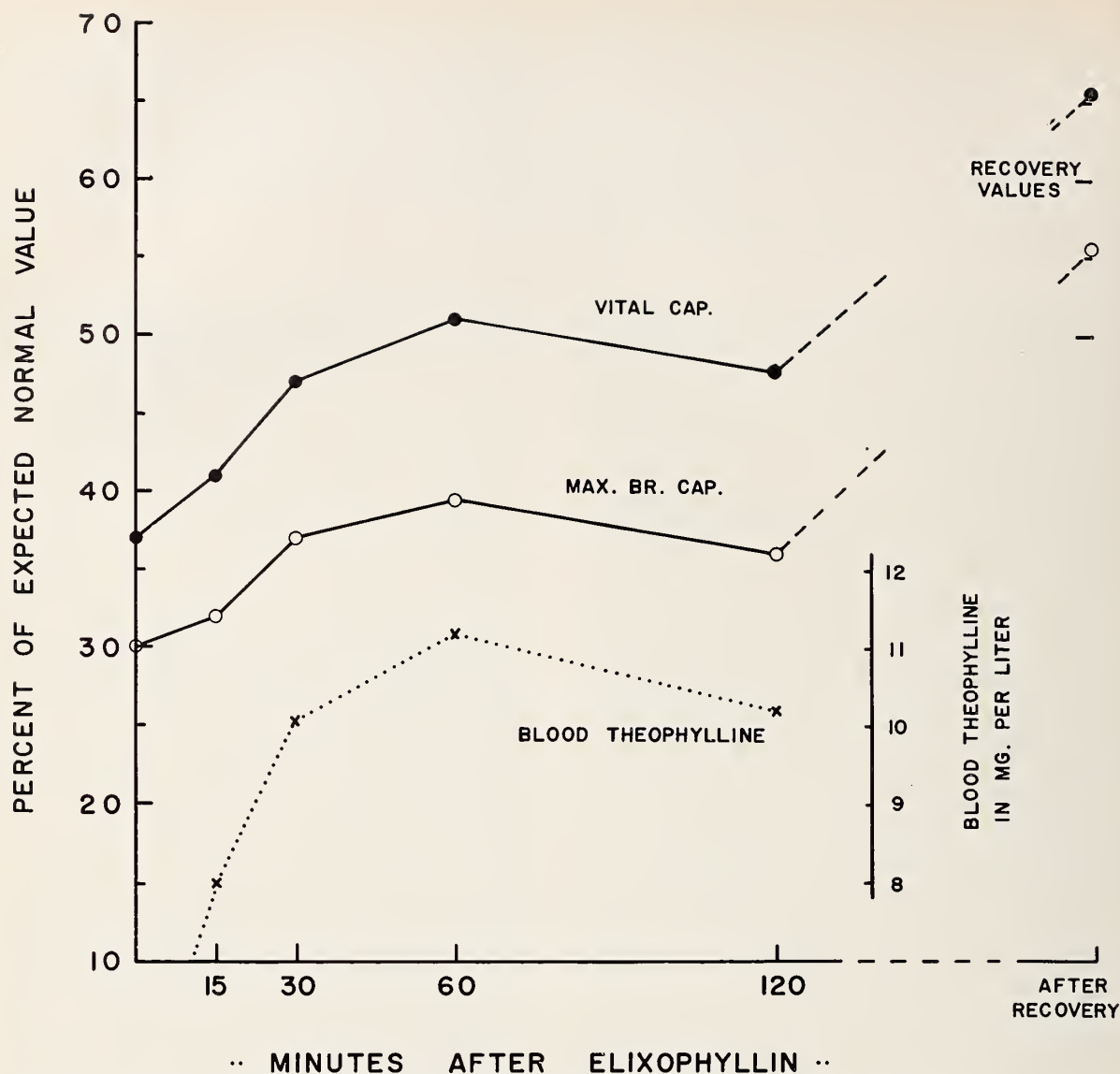


Chart 1.—Effect of Elixophyllin on 3-second Vital Capacity and Maximal Breathing Capacity of patients who received the drug during acute phase of bronchial asthma. The dotted line at bottom of chart shows the theophylline content in the blood after administration of 75 cc. of Elixophyllin (400 mg. theophylline), as determined by Schluger, McGinn and Hennessy.³

dose of 75 cc. (400 mg. theophylline) improvement was noted on the average within 15 minutes, continued up to one hour, and then tended to decline.

Nearly all the patients studied had some decrease in lung function even between attacks. Since single doses of Elixophyllin usually did not raise lung function to the resting level and tended to lose their effectiveness after two hours, the dose may be repeated at intervals to maintain maximum benefit. As individuals vary widely, the need for extra Elixophyllin should be judged by the patient's response. Allowance should also be made for the fact that about one third of patients may not respond in the first 15 minutes after taking Elixophyllin.

TABLE 3.—Change from Initial Values of Timed Vital Capacity and Maximal Breathing Capacity in Cases of Acute Asthma

Treatment	Timed Vital Capacity	Maximal Breathing Capacity
	Per Cent Change	Per Cent Change
After Placebo, 10 cases.....	15 min.— 0.5	— 4.5
	30 min.—10.1	— 8.5
After Elixophyllin, 35 cases.....	15 min.+ 9.6	+ 8.5
	30 min.+24.6	+21.4
	1 hr.+33.8	+30.2
	2 hr.+25.0	+20.4

Materials and Methods

Thirty-six patients with chronic asthma were selected from clinic and private patients to take Elixophyllin and a placebo for three to four weeks each. Six patients had to be dropped from the study because of side effects from Elixophyllin. Of the 30 remaining patients, 14 were males and 16 females. The youngest was 4 years of age, the oldest 74, and the median for the group was 50 years. The average duration of asthma was seven years, although many of the patients had had the disease their life long. Seven of the thirty patients were classed as having moderate asthma, as they were prevented from working and used daily medication. Twenty-three had severe asthma and required frequent emergency treatment.

The dose of both Elixophyllin and placebo was 60 cc. (4 tablespoons) four times a day for adult males, and 45 cc. (3 tablespoons) for women and adolescents—320 mg. and 240 mg. of theophylline, respectively. These amounts were often decreased slightly by the patients themselves, depending on the amount of relief experienced.

Each patient kept a daily record of asthmatic attacks, coughing spells, supplemental medication and an estimate of over-all improvement in symptoms or lack of improvement. (After a short period of trial, patients are able to keep records that are more reliable than memory.¹) These data were checked each week, and the number of attacks of asthma and/or coughing per week was designated the Symptom Index. The degree of relief was rated from none (0) to complete (4). Thus complete control of asthma for a week would make the Symptom Index zero, and conversely the degree of relief would be 4.0. The more the symptoms the greater the Symptom Index, and less than complete relief would result in some value between 0 and 4.0.

During the control period, and once a week during the treatment period each patient was checked for T.V.C. and M.B.C. The measurements were taken at mid-morning, after the patient had been sitting quietly for a half hour. Readings were taken with the patient standing. The values obtained were converted to per cent of expected normal in each case.

Results

As shown in Table 4, lung function improved modestly in the group as a whole during the time Elixophyllin was being taken regularly. Before treatment the average value for T.V.C. was 49.7 per cent of normal; during the month of Elixophyllin administration it rose to 58.5, an increase of about 15 per cent. The placebo caused no change on the average from the initial value.

TABLE 4.—Average Values Before and During Treatment with Elixophyllin and Placebo Among Thirty Patients with Chronic Asthma.

	Initial Value	Under Elixophyllin Therapy	With Placebo
Timed Vital Capacity (Per cent of normal).....	49.7	58.5	49.9
Maximum Breathing Capacity (Per cent of normal).....	35.6	42.9	33.5
Symptom Index (Weekly Average)	23.9	19.5	22.7
Degree of Relief* (Weekly Average) .....	....	2.38	1.08

*No relief 0; complete relief 4.0.

The other function measured, M.B.C., rose from 35.6 per cent to 42.9 per cent of predicted normal during the use of Elixophyllin, an increase of 20 per cent. Again the placebo produced no change on the average from the initial readings.

The Symptom Index, which is primarily a measure of the frequency of asthmatic attacks, showed only a slight decrease during Elixophyllin therapy. The difference in the Degree of Relief Index, however, was large; it was twice as much during Elixophyllin as during placebo administration. This was borne out by typical comments from patients, such as: "much lighter attacks"; "can bring up mucus"; "easier to stop attacks," etc. This would indicate that Elixophyllin used on a regular schedule decreased the severity of asthma in this group, without altering the basic pattern of the attacks.

Although only one of the 30 patients was completely relieved of asthma by Elixophyllin, 18 noted substantial benefit. The placebo was associated with slight to moderate relief in two patients, a rather lower incidence of placebo effect than was expected, which may indicate that in this type of severe intrinsic asthma psychologic factors are less important than organic factors.

The outstanding complaint regarding Elixophyllin was nausea, and some patients noted gastric irritation. These phenomena were most pronounced when the solution was taken on an empty stomach, and they varied with the amount taken. Six adult patients originally scheduled for this study were unable to continue; five because of nausea with or without cramps and diarrhea, or nausea and increase in asthma, and one because of increase in bronchospasm with each dose of Elixophyllin.

The side effects noted are listed in Table 5. During the full initial dose of Elixophyllin, a total of ten patients complained of some degree of gastric disturbance, but they were willing to continue because of the effect on their asthma. Gastric distress became less of a problem if Elixophyllin was taken when some food was present in the stomach, and as the dose was decreased after the test period.

An itching erythematous rash on the neck, back, chest and upper arms appeared in one patient during the third week of Elixophyllin therapy. It cleared when Elixophyllin was replaced by the placebo, and reappeared when the drug was tried again.

The placebo was associated with nausea in one patient and with an increase in asthma in another.

DISCUSSION

The study presented here indicates that a hydro-alcoholic solution of theophylline when taken by mouth in adequate doses brings about an increase in pulmonary function in asthma. In acute attacks the effect is usually noticeable in 15 minutes and increases for an hour. Response is not this rapid in all cases, indicating that there may be different rates of absorption, or that factors other than bronchospasm are important. Patients who do respond well to Elixophyllin (37 per cent of the patients with acute cases in the present series) may be spared the inconvenience of intravenous aminophylline in many of their attacks, and can assume more responsibility for their own treatment. Those who do not respond readily will require intravenous aminophylline or hospital treatment.

Spielman⁴ in reporting on 20 cases of acute asthma found that all of them noted good to excellent relief of symptoms after 75 cc. of Elixophyllin. In the present series of 35 cases of acute asthma, ten obtained practically no relief. The difference may be explained by the fact that the patients in Spielman's study had less initial depression of lung function and were better able to respond to the bronchodilator.

In chronic asthma the routine use of Elixophyllin decreases the severity of bronchospasm but does not alter the basic pattern of the disease except in a very few cases. In this respect it has the same effect as other forms of theophylline. Gastric distress with

TABLE 5.—Side Effects Complained of by Thirty Asthmatic Patients Receiving Elixophyllin and Placebos

Side Effect	Elixophyllin No. of Cases	Placebo No. of Cases
Nausea		
Mild	3	0
Moderate	4	1
Severe	2	0
Vomiting	2	0
Cramps	1	0
Diarrhea	1	0
Insomnia	1	0
Headache	1	0
Rash	1	0
Asthma	0	1

continuous use was complained of by a third of the patients, but this tended to disappear when the dose was reduced or if taken along with some food.

Elixophyllin appears from this study to be a useful preparation for the control of bronchospasm in asthma. As with other methods of treatment, its use must be adjusted to the individual patient's needs, as dictated by experienced and clinical judgment.

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ANNUAL SESSION PROGRAM

Coming Next Month



Watch for your

DECEMBER ISSUE

CASE REPORTS

Psoas Abscess Following Acute Appendicitis

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THE MORE COMMON SITES of abscess complicating perforated appendicitis are well known. However, standard textbooks of surgery and the literature make only infrequent mention of retroperitoneal infections,⁶ and reports of actual psoas abscess following appendicitis are quite rare.

In 1886, Reginald Fitz³ briefly stated that "the course of the psoas and iliacus may be followed into the thigh. . . ." In 1905, Kelly,⁴ in his discussion of retroperitoneal abscess, mentioned a case reported by Crile in which "the abscess extended from the right iliac fossa down the inner aspect of the thigh to the popliteal fossa." Deaver¹ in 1914 stated that sometimes retroperitoneal abscesses ". . . may present themselves beneath Poupart's ligaments . . ."

More specifically, McCorkle and Stevenson⁵ in 1938 reported a case in which, following drainage of a psoas abscess in the right thigh, subsequent laparotomy revealed an appendix whose tip had perforated and was adherent to the psoas sheath. Devine,² in 1946, reported a similar case, and Pierleoni and Johnson,⁷ in 1955, reported two cases of rupture of the appendix into the psoas sheath.

The following case is reported in order to emphasize more specifically psoas abscess as a possible complication of appendicitis.

REPORT OF A CASE

A 19-year-old boy was admitted to the Midway Hospital, Los Angeles, on July 29, 1957, with chief complaint of difficulty in walking and pain in the right anterior thigh of about five days' duration. He had been examined four months previously because of intermittent mild discomfort in the right lower quadrant of the abdomen. Findings at that time and again a month later were entirely nonrevealing. Six weeks previous to admission he had been re-examined because of increasing pallor and a loss of 40 pounds in body weight, although he said

that otherwise he felt well. Examination was again nonrevealing except for a leukocytosis of 14,200 per cubic millimeter, with no abnormality in the cell differential. Hemoglobin content was within normal limits.

On admission to the hospital the patient appeared flushed and "toxic." The temperature was 102° F., the pulse rate ranged between 80 and 110 and the blood pressure 130/80 mm. of mercury. Mild tenderness to percussion was present in the right costovertebral area. There was decided scoliosis of the lumbar spine to the left. The right thigh was flexed about 30° and could not be fully extended, causing the patient to walk with a pronounced limp. A large mass was palpated in the abdomen, occupying almost the entire right lower quadrant and extending medially to the midline, superiorly almost to the right hypochondrium and laterally to the anterior superior iliac spine. This mass was nonmovable and only slightly tender. Rectal examination elicited only a sense of fullness on the right side.

Erythrocytes numbered 4.05 million per cu. mm. and the hemoglobin content was 10.4 gm. per 100 cc. Leukocytes numbered 31,000 per cu. mm., 84 per cent of them polymorphonuclear cells. Urinalysis was within normal limits except for a slight trace of albumin. The blood urea nitrogen was 10 mg. per 100 cc.

Roentgenographically a large retroperitoneal mass was seen on the right side obliterating the psoas shadow and also displacing the lower pole of the right kidney laterally. The lumbar spine showed pronounced scoliosis to the left (Figure 1). Intravenous pyelography confirmed the diagnosis of a large retroperitoneal mass on the right side.

At operation a right paramedian incision was made and in the right side of the abdomen there was an extremely large, firm, nonfluctuant, retroperitoneal mass which extended from below the pelvic brim upward to the right kidney, displacing the abdominal viscera medially and anteriorly.

After the right colon was freed, the mass was found to lie entirely within the right psoas muscle, which was tightly stretched over it. The appendix, which was retrocecal, was shortened and thickened and the blood vessels were engorged. The base of the appendix was tightly adherent to the underlying psoas muscle. When the adherent base of the appendix was freed, a large amount of thick greenish-

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Submitted July 14, 1959.

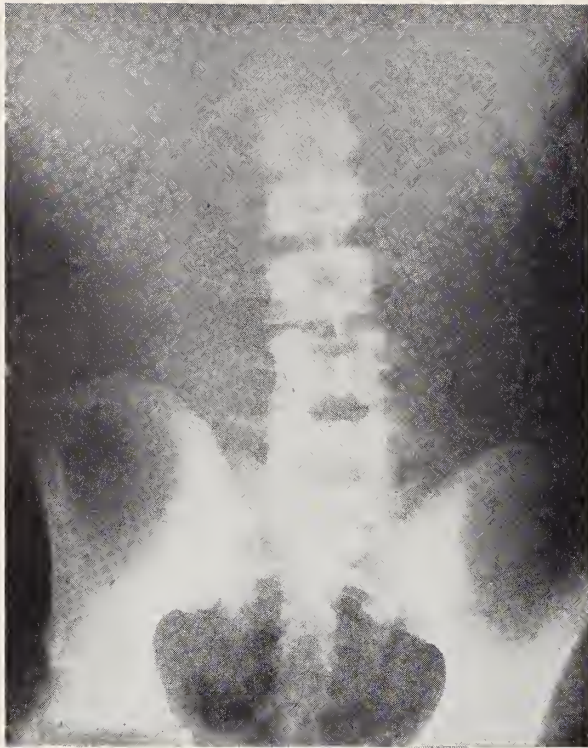


Figure 1.—Preoperative film showing obliteration of right psoas shadow and scoliosis of lumbar spine.

yellow pus escaped from within the psoas muscle. Approximately 500 cc. of pus was aspirated from this abscess cavity. Subsequently, coliform bacilli grew on a culture of the material.

Appendectomy was performed and the abscess cavity drained by means of a Chaffin tube and a cigarette drain through the right flank. The pathologist's report on the appendix noted considerable edema with a heavy infiltration of lymphocytes and a few neutrophilic leukocytes. A diagnosis of sub-acute appendicitis was made.

The postoperative course was essentially uneventful. Both drains were spontaneously extruded on the fifth postoperative day. The patient was discharged on the tenth postoperative day with no further drainage from the flank wound. The temperature was normal and there was decided improvement in gait and general appearance.

A month after the operation the patient again complained of difficulty in extending the right hip and of slight temperature elevations daily. Upon examination a pronounced fluctuant, nontender swelling was noted in the right groin. Leukocytes numbered 25,000 per cm. A diagnosis of recurrent psoas abscess was made and the patient was treated for several weeks with antibiotics and repeated aspirations of thick greenish pus, culture of which again grew coliform bacilli. Improvement in the temperature and a decrease in the number of leukocytes were only temporary; increasing fever and



Figure 2.—Postoperative film showing sinus tract in psoas muscle.

leukocytosis soon followed, and the pus became too thick for adequate aspiration.

The patient was readmitted to hospital three months after the first operation, and the fluctuant mass in the groin was incised beneath the right inguinal ligament and lateral to the femoral vessels. About 500 cc. of thick greenish pus was aspirated, and the cavity was seen to pass beneath the inguinal ligament upward into the substance of the psoas muscle. Suction drainage by means of a catheter introduced from beneath the inguinal ligament was instituted. An x-ray film taken five days later following injection of a contrast medium (Lipiodol) through the catheter showed the residual sinus tract in the region of the psoas muscle (Figure 2).

Within two weeks, the groin wound had ceased draining and closed spontaneously. The patient regained about 40 pounds in weight, remained free of symptoms and walked with a normal gait.

SUMMARY

A case is presented of a right psoas abscess secondary to perforation of a retrocecal appendix. The onset of acute symptoms of psoas abscess followed by several months an attack of appendicitis which apparently gave rise to only minimal symptoms.

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Arteriovenous Fistula Between Right Renal Artery and Inferior Vena Cava

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ARTERIOVENOUS FISTULA between the renal vessels is rare. Ten cases, with various causes, have been reported in the literature. Even rarer is arteriovenous fistula between the renal artery and the inferior vena cava. Such a case is reported herein. The right renal artery and the inferior vena cava were damaged by gunshot wounds to the right flank, and an arteriovenous fistula formed with a false aneurysm between the two vessels. Symptoms did not develop until two years after the injury and did not become disabling until eight years later.

CASE REPORT

The patient, a woman 28 years of age, was examined in consultation in December, 1956. Ten years previously she had been shot twice in the right lumbar area with a .38 caliber gun. One bullet went out just lateral to the right breast. Laparotomy was performed. The patient was told that the bullet

had made a hole in the liver, but that she would be well. Recovery was uneventful.

In 1943 the patient married and became pregnant. During the third trimester of pregnancy, she noticed slight shortness of breath but was able to carry on quite well. Following delivery the shortness of breath persisted. As time went on, it gradually and progressively became worse but did not interfere with her daily activities.

In 1955 there was one episode of palpitation for two hours during which the heart beat strenuously but regularly and the shortness of breath was greatly increased. Besides this acute episode the patient noticed constant progression in the shortness of breath.

In December, 1956, just before she was examined in consultation, the shortness of breath had become so pronounced that any exertion occasioned gasping for air. The distress was greatest at the end of the day and in hot weather was almost unbearable. Even the effort of eating a meal made the patient so breathless that small frequent feedings were necessary. She was unable to do any housework. Taking a few steps made her breathless. In spite of this, there was no nocturnal dyspnea and she was comfortable with only one pillow at night. She had not noticed any swelling of the ankles but had noticed some pain in the legs on walking. There were no other symptoms.

Upon physical examination the patient was in no apparent distress at rest. No abnormal venous pulsation or venous distention in the neck was noted and the cervical nodes were not enlarged. The chest moved well with respiration. There were no adventitious sounds from the lungs. The heart beat was regular, with sinus rhythm at a rate of 90 per minute. The heart was enlarged. The point of maximal impulse was in the sixth interspace at the anterior axillary line. Both heart sounds were heard in all areas. There was a mitral systolic murmur at the apex. The second pulmonic sound was loud and split, and the second aortic sound was greater than the second pulmonic. Blood pressure was 174/98 mm. of mercury in both arms. In the epigastrium there was a loud "machinery" murmur with a sys-

TABLE 1.—Isotope-Blood Volume Study

	Average Normal Female (20 to 60 yr.)	Preoperative	Postoperative (2 Weeks)	Postoperative (22 Months)
Weight		120 lb. (54.5 kilo)	120 lb. (54.5 kilo)	125.5 lb. (57 kilo)
Total volume in cc.'s.....		4100	3990	4275
Total volume in cc.'s/kilo..	71.5	75.2	73.3	75.0
Plasma volume in cc.'s/kilo	41.5	52.5	49.9	42.0
Red cell mass in cc.'s/kilo	30.0	22.7	23.4	33.0
Hematocrit (percentage) ..	42.0	30.2	31.8	43.6
Interpretation		Total volume per kilo increased by increase in plasma volume.	Total volume per kilo reduced towards normal by reduced plasma volume per kilo	Normal limits

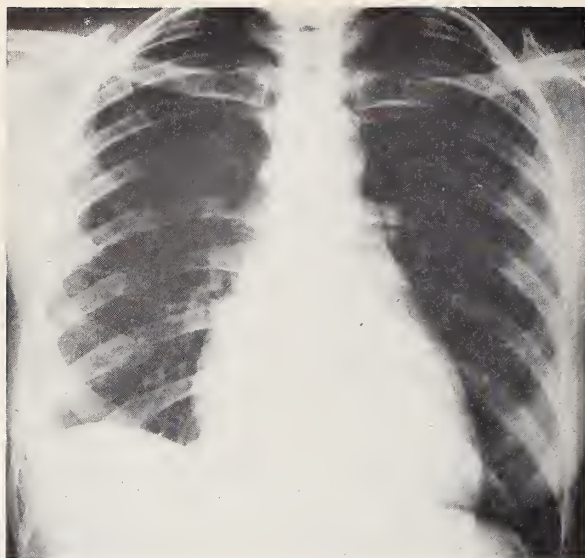


Figure 1.—Posteroanterior view of the chest, preoperatively. Cardiothoracic ratio 13.8:25.6.

tolic accentuation heard best just to the right of the midline. It was also heard well posteriorly in the interscapular area along the course of the aorta and was maximal posteriorly in the right costovertebral angle over the scars marking the entry of the bullets.

No abnormalities were noted in the urine. Hemoglobin content of the blood was 18.8 gm. per 100 cc. Erythrocytes numbered 3,400,000 per cu. mm. and leukocytes 5,600 with the cell differential 46 per cent polymorphonuclear, lymphocytes 50 per cent and eosinophils 4 per cent. Serologic tests were negative for syphilis. The hematocrit was 30 per cent and the corrected blood sedimentation rate was 2 mm. in one hour. The arm to tongue circulation time, using sodium dehydrocholate, was 13.5 seconds. Blood volume studies with radioactive isotopes showed the total volume per kilogram of body weight was above normal ratio, due to an increased amount of plasma. The red cell mass was below normal limits (Table 1).

Posterior and lateral radiographs of the chest showed no abnormality in the lung fields and a moderate enlargement of the heart, with no specific chamber enlargement (Figure 1). Fluoroscopy revealed no additional pertinent information.

A phonocardiogram made in the epigastrium recorded the "machinery" murmur heard in this area (Figure 2). A tracing of the loud systolic murmur heard at the apex is shown in Figure 3. (There was adventitious electrical interference with the tracing, but the murmur was demonstrated.) It was attributed to dilatation of the heart and corresponding enlargement of the mitral ring. An electrocardiogram was considered to be within normal limits. A renogram, using radioactive diodrast, showed normal supply of blood to both kidneys and normal function and drainage.

A polyethylene catheter inserted into the left

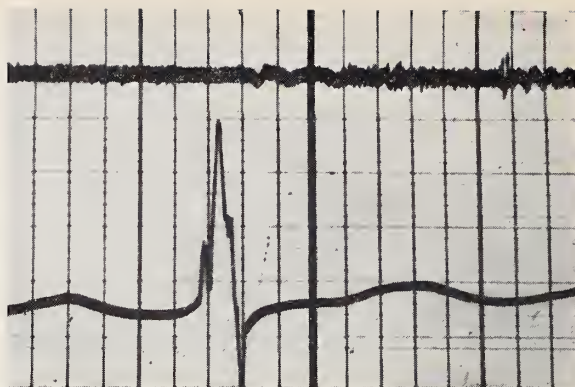


Figure 2.—Phonocardiogram from epigastrium, showing continuous systolic and diastolic "machinery" murmur.

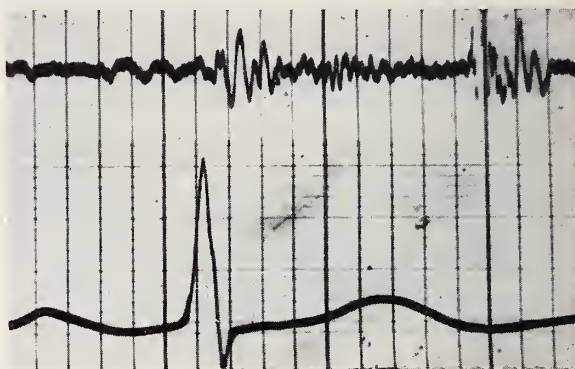


Figure 3.—Phonocardiogram at apex, showing systolic murmur at apex.

femoral artery was advanced to the level of the interspace between the first and second lumbar vertebrae. Contrast medium was injected rapidly and multiple exposures were made in quick succession. The films showed an arteriovenous fistula between the right renal artery and the vena cava (Figure 4). The right renal artery narrowed at a point 6 mm. beyond its branching from the aorta. There was a dilated aneurysmal deformity above the renal artery and behind the vena cava which was dilated. The deformity was a false aneurysm which opened into the vena cava. The dilated vena cava was rapidly filled through the fistula. The blood supply to the right kidney was essentially normal.

The diagnosis was traumatic arteriovenous communication between the right renal artery (6 mm. from its branching from the aorta) and the inferior vena cava, with a false aneurysm between the two vessels posterior to the vena cava.

Operation was done under hypothermia because of the possibility that the aorta above the renal arteries might have to be occluded for a considerable time to control flow of blood through the fistula during dissection.

After sedation was administered and intubation was completed, cooling was begun. A half hour later, when the temperature was 33.5° C., cooling



Figure 4.—Aortogram showing aneurysm, dilated inferior vena cava and foreign bodies over the second lumbar vertebra.

was discontinued and the patient was transferred to the operating table. Operation was begun an hour after the beginning of cooling.

A right rectus keloid scar was excised. The peritoneum was opened and several loops of small bowel adherent to the scar were dissected free. The peritoneal reflection at the lateral border of the right colon and the duodenum was incised and the colon with the duodenum was reflected toward the left and medially to expose the inferior vena cava and the aorta. The vena cava was tense and distended. A pronounced thrill could be felt in the inferior vena cava, maximal at the level of the left renal vein and posterior to the vena cava. The vena cava was dissected on its anterior and medial aspect until it and the left renal vein were freed from the dense scar. The aorta medial to the vena cava, just below where the left renal vein crossed, was surrounded by dense adhesions. Pressure upon the aorta at this point caused disappearance of the thrill in the inferior vena cava, indicating that this was the point of origin of the arteriovenous fistula (Figure 5). The scar tissue was so dense that dissection was halted long enough to place tapes about the aorta, above and below the operative field, so that the flow of blood could be controlled. Then dissection of the fistula was begun. First the aorta was dissected from the scar tissue and the origin of the right renal artery was exposed. The stump of the renal artery was short and scarred. The right renal artery was doubly ligated, whereupon the thrill immediately disappeared from the vena cava and the tension in the vessel decreased.

At this point it was decided to divide the renal artery in order to avoid possible recanalization. The

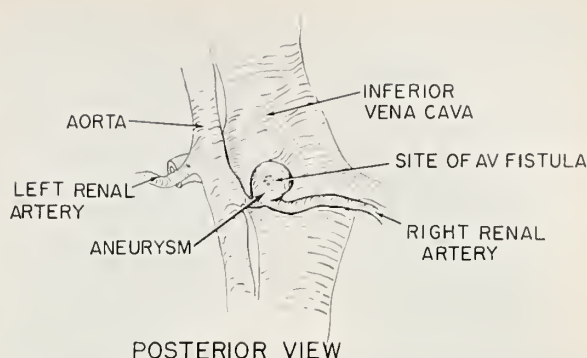
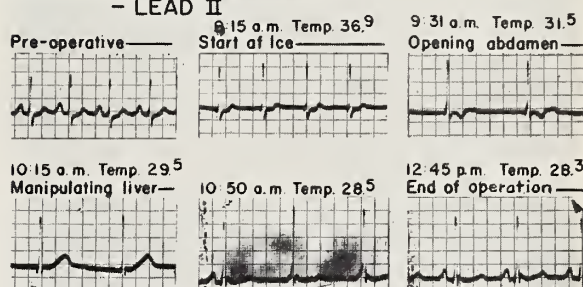


Figure 5.—Anatomical defect as seen at operation.

HYPOTHERMIA EFFECTS —

— LEAD II



ELECTROCARDIOGRAPHIC EFFECTS

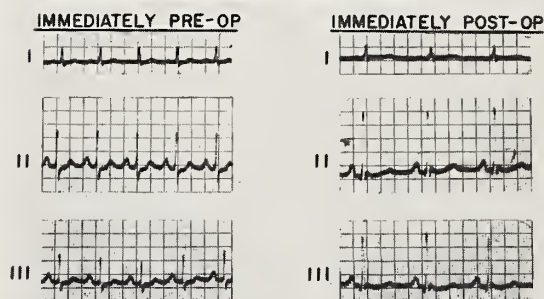


Figure 6.—Electrocardiographic effects during hypothermia.

fistula was clamped and cut, leaving a small cuff on the renal artery, which gave way. Hemorrhage was controlled by clamping the aorta above and below the renal artery and the edges of the hole were drawn together with a double layer of fine silk. The venous side of the fistula was closed with transfixion sutures and the clamps were removed. Gelfoam was inserted between the aorta and the vena cava. Next, the right kidney was dissected out lateral to the vena cava, the ureter ligated and divided, the renal pedicle ligated, transfixed and divided and the kidney removed. The abdomen was closed without drainage. At the end of the operation the patient was in excellent condition. The temperature was 28.3° C. The abdominal murmur had disappeared.

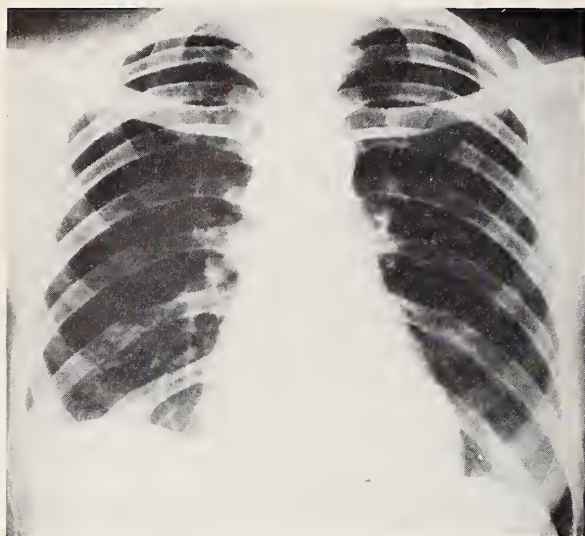


Figure 7.—Posteroanterior view of chest two weeks after operation. Cardiothoracic ratio 12.5:25.6.

Electrocardiographic Changes

Immediately before hypothermia was started in preparation for the operation, the temperature was 37.2° C., and the pulse rate was 98 with normal sinus rhythm. Following induction of anesthesia, nodal rhythm appeared and persisted for the duration of cooling and operation. Normal sinus rhythm appeared spontaneously when the operation was completed, although the temperature at the time was still 28.3° C. (Other observers have noted similar changes during anesthesia, with or without hypothermia.)

There were T wave changes associated with manipulation of the liver. The waves became inverted when the abdomen was opened, became elevated when the liver was manipulated, then diphasic and later returned to normal at the completion of the operation. These T wave changes were probably related to volume changes within the right ventricle as a result of changes in flow in the inferior vena cava.

The electrocardiogram immediately after operation had a rightward shift, somewhat lower T waves and a longer Q-T interval than before operation, although remaining within normal limits (Figure 6). The electrocardiogram remained unchanged during the rewarming period.

Nine hours after operation the blood pressure was 120/84 mm. of mercury and all limbs were being moved freely. The patient became normothermic about 13 hours after cooling had begun, without any artificial warming. The systolic murmur at the apex disappeared shortly after operation. The patient left the hospital on the seventh postoperative day.

Two weeks after operation there were no murmurs, the peripheral pulses were normal, the blood

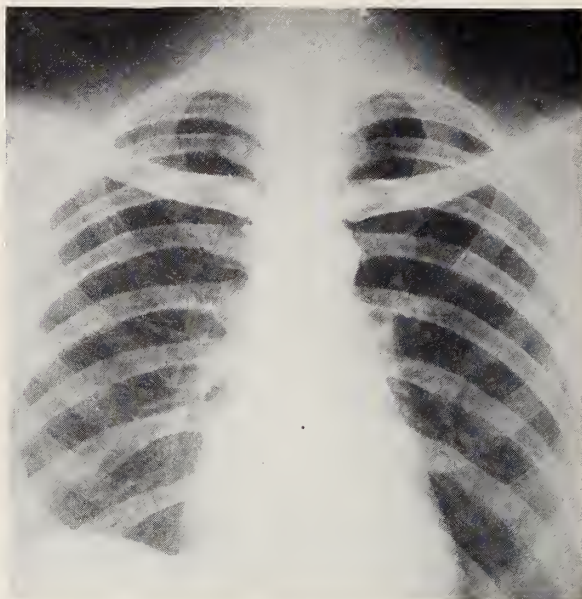


Figure 8.—Posteroanterior view of chest 22 months after operation. Cardiothoracic ratio 11.9:25.6.

pressure was 120/80 mm. of mercury. A considerable decrease in the size of the heart had occurred, the cardiothoracic ratio having diminished to 12.5:25.6 from 13.8:25.6 (Figure 7). A study of blood volume by radioactive tracer method showed the expected changes when compared with the preoperative results (Table 1), total blood volume per kilogram of body weight having decreased toward normal, mainly through a reduction in the plasma volume.

Twenty-two months after operation the patient was still asymptomatic, the physical findings were all normal, and the heart size was further reduced to a cardiothoracic ratio of 11.9:25.6 (Figure 8).

DISCUSSION

Use of an arterial graft for repair of the damaged right renal artery was considered preoperatively in this case, but the idea was abandoned at operation because the right renal artery had a short stump (only 6 mm.) and there was excessive scarring of the whole area. The left kidney being completely normal, removal of the right kidney was considered the most reasonable procedure.

An interesting feature of this case was that symptoms did not become evident until two years after injury and then only under the stress of pregnancy, which proceeded to term. Even after symptoms developed it was almost eight years before the disability became so severe that medical assistance was sought.

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EDITORIAL

Health Insurance for Federal Employees

LATE IN SEPTEMBER President Eisenhower signed into law a new statute which provides for federal contributions toward the cost of medical care insurance for federal employees and their families.

This law is extremely important, both to federal employees and to physicians. For the first time, it recognizes "Uncle Sugar" as an employer who helps his employees meet their health care needs under a fringe benefit arrangement such as employees of private organizations have long enjoyed.

In addition, it offers each employee a variety of free choices—whether or not to participate, in what type of plan he wishes to participate, whether or not to include his family dependents, whether to shift from one kind of plan to another, whether he wants basic or more comprehensive coverage.

Members of labor unions and other groups covered under the familiar health and welfare plans never had it so good. While the great Uncle in Washington was late in arriving at his conclusion, it is obvious that he has finished up by maintaining for his employees the widest possible latitude of self-determination.

The new law, which calls for the subsidization of health care insurance coverage starting next July 1, is basically a plan of Government subsidies to individuals in Government employ who wish to purchase any one of a variety of health insurance coverages. The ground rules to be observed are left up to the federal Civil Service Commission. And that body has been atypically quick in getting out a list of questions and answers for the guidance of all federal employees.

The commission has issued a set of Q. and A. digests designed to acquaint federal employees with their rights and responsibilities under the new law. Apparently each employee is being given advance notice of the provisions of the law so that he may

plan his own ideas of coverage, now and in the future.

Several items in this publication by the Civil Service Commission will be interesting to physicians, many of whom will doubtless be seeing these employees and their families as participants in the program starting next July. Among these are:

1. Each federal employee may decide for himself whether or not he wishes to participate.
2. Each federal employee may decide for himself whether he wishes to cover only himself or his family members as well.
3. Each federal employee may choose between (a) a service-type plan, (b) an indemnity-type plan, (c) an employee-organization plan, or (d) a group-practice prepayment plan.
4. An employee may, when authorized, shift from one kind of coverage to another. He may add his family members or drop them from his coverage.
5. He may elect either of two levels of coverage under the service or indemnity-type programs. It is anticipated that the lower level of such plans will provide only what the Civil Service Commission refers to as "basic health" coverage and the higher level will add "catastrophe" coverage to this base.
6. The employee's share of the cost will be met through payroll deductions.
7. The government will contribute not less than \$2.80 monthly nor more than \$6.75 monthly toward the cost of each employee's health insurance. Basically, the Government's portion, to be paid from tax funds, will be 50 per cent of the cost of the coverage, up to a maximum total cost of double the amount of the Federal Government's maximum limits. If an employee wishes to purchase coverage in excess of \$5.60 a month for an individual or \$13.50 a month for a family, he will be expected to pay all the excess over the maximum federal portion applicable to him.

These are a few of the pertinent details of this

new program, a nationwide plan which will make its impact felt on the entire medical profession in the latter half of 1960. Since the plan is new and since it will cover a large number of patients, physicians should familiarize themselves with it in advance and prepare themselves for its inauguration.

Under the choice of plans available to each federal employee, a service-type plan is being developed by a Blue Shield-Blue Cross combination and will be offered for purchase by employees who choose it. An indemnity-type plan will be worked out by one commercial insurance company which, without doubt, will make it available for underwriting by a number of other carriers. The employee-organization plans will represent the continuation of some such organized plans already in existence, such as that sponsored by postal employees. The group-practice plans used by the Civil Service Commission as examples of this type of coverage include Health Insurance Plan of New York, Group Health Association in Washington, Kaiser Foundation in California, and others.

California is fortunate in having California Physicians' Service as a vehicle for participating in the service-type coverage for federal employees. It is likewise fortunate in having an active and aggressive insurance industry to take part in the indemnity-type plan. Since there are an estimated 300,000 federal employees in the state, or about 700,000 people when dependents are counted, these factors loom large in the prospective success of these plans. By the same token, the existence of these resources will be meaningless if they cannot be brought into the picture of participating in the federal employees' program.

At this moment nobody knows precisely what terms the Civil Service Commission will exact for its approval of health insurance plans. However, it is safe to assume that for service-type programs such as Blue Shield-Blue Cross, the requirement will be that the plan meet the full cost of the service contracted for so long as the plan member does not show an annual income above a specified ceiling. A question remains, so far as California is concerned, as to how high this ceiling shall be.

California Physicians' Service now operates three

service plans, with family income ceilings of \$4,200, \$6,000 and \$7,200. The fees allowed to participating physicians vary under these plans, the highest fee, as expected, going to those serving patients in the highest ceiling category.

The \$7,200 income ceiling with CPS Schedule C is the most appropriate for federal employees in California. However, it is obvious that the plan could be offered only in those counties where the county medical society has approved that ceiling and the accompanying factor of five for the Relative Value Study as a fee basis.

Further details on this whole plan will be forthcoming in the next few months, as the Civil Service Commission develops its own ground rules. Meanwhile, California doctors should be aware of what is in store for the many federal employees in this state and what they themselves may expect if they are chosen by these employees as the purveyors of their medical needs.

County medical societies may well find this topic an apt one for discussion in the next few months. Where CPS income ceilings have been retained at the lower levels by county society action, the societies and their members may want to consider the advisability of increasing these levels. Obviously, such considerations will be more meaningful in areas where a large number of federal employees are located.

Uncle Sam has broken several precedents in voting this law. Federal employees are given a fringe benefit; they are covered under a payroll deduction plan for the first time; they are given an apparently wide choice of plans, coverages and costs.

It is to be hoped that the medical profession will give adequate study to the new program, will be flexible enough to adjust to the terms to be laid down for the various plans to be made available and will continue to provide the finest medical care for those patients who, as federal employees, may be coming into physicians' offices with insurance contracts for the first time.

The Council has extensively discussed the implications of the new law and it would seem almost imperative that county societies keep themselves fully conversant with developments under it.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 452nd Meeting of the Council, Rickey's, Palo Alto, Calif., September 19, 1959.

The meeting was called to order by Chairman Lum in the Executive Conference Room of Rickey's, Palo Alto, California, on Saturday, September 19, 1959, at 9:30 a.m.

Roll Call:

Present were President Reynolds, President-Elect Foster, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Shaw, Gifford, Harrington, Davis, Sherman, Campbell, Lum, Bostick and Teall. Absent for cause, Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Edwards, Salisbury and Dr. Batchelder of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Mr. Ben H. Read of the Public Health League of California; county society representatives Geisert and Smith of Kern, Fred O. Field of Los Angeles, Neick of San Francisco, Wood of San Mateo, Donovan and Colvin of Santa Clara and Dermott of Sonoma; Dr. Clyde L. Boice of Santa Clara County; Dr. A. E. Larsen and Messrs. Etchel Paolini and Richard Lyon of California Physicians' Service; Dr. Dan O. Kilroy, legislative chairman; Dr. John Keye of the State Department of Social Welfare; Dr. Robert Dyar of the State Department of Public Health; Drs. Crawford Sams and W. W. Stiles, Chairman and Secretary of the Medical Advisory Committee to the Organizing Committee of the VIII Olympic Games; Dr. L. Henry Garland.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 451st meeting of the Council, held August 8, 1959, were approved.

2. Membership:

(a) A report of membership as of September 17, 1959, was submitted and ordered filed.

(b) On motion duly made and seconded, 29 delinquent members, dues now received, were voted reinstatement.

(c) On motion duly made and seconded in each instance, two members were voted Retired Membership. These were: M. E. Mesirow, Santa Barbara County, and Norman R. Sullivan, Santa Cruz County.

(d) On motion duly made and seconded, Dr. David Rosendale of Sacramento County was elected to Associate Membership.

(e) On motion duly made and seconded in each instance, 13 members were voted a reduction in dues because of illness or postgraduate study.

3. Report of the President:

President T. Eric Reynolds reported on a request received from the prepayment dental care plan sponsored by the California State Dental Association, asking for consultation with representatives of California Physicians' Service. On motion duly made and seconded, it was voted to request the Board of Trustees of California Physicians' Service to hold preliminary discussions with dental representatives on the subject of prepayment.

T. ERIC REYNOLDS, M.D. President
 PAUL D. FOSTER, M.D. President-Elect
 JAMES C. DOYLE, M.D. Speaker
 IVAN C. HERON, M.D. Vice-Speaker
 DONALD D. LUM, M.D. Chairman of the Council
 SAMUEL R. SHERMAN, M.D. Vice-Chairman of the Council
 MATTHEW N. HOSMER, M.D. Secretary
 DWIGHT L. WILBUR, M.D. Editor
 HOWARD HASSARD Executive Director
 JOHN HUNTON Executive Secretary
 General Office, 693 Sutter Street, San Francisco 2 • PRospect 6-9400
 ED CLANCY Director of Public Relations
 Southern California Office:
 2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

4. *Financial:*

(a) A report of bank balances and current obligations as of September 17, 1959, was presented and ordered filed.

(b) Mr. Hunton asked authority to shift several items in the budget from one account to another without adding any financial sums. On motion duly made and seconded, this authority was voted.

(c) Mr. Hunton reported that a meeting of the Board of Directors of the Trustees of the California Medical Association would be called during the day, for the purpose of authorizing the establishment of a line of credit with the bank so as to permit seasonal borrowing as needed; authority would also be asked to require only one signature on checks up to \$500 and two signatures on larger items.

5. *Committee on Nominations:*

Councilor Bostick, chairman of the Committee on Nominations, reviewed the program planned for the meeting of county society officers for October 10 and 11, 1959, which was tacitly approved.

6. *State Department of Social Welfare:*

Councilor Sherman, chairman of the liaison committee to the State Department of Social Welfare, reported that appointments for membership on the Advisory Committee to this department would soon be forthcoming and suggested that the Association make three nominations for such appointments. On motion duly made and seconded, the suggested procedure was approved.

7. *C.P.S. Fee Schedule Allowances:*

On motion duly made and seconded, it was voted to request the California Physicians' Service to advise its physician members of the procedure to be followed in billing for prolonged office visits under C.P.S. Schedules A and B.

8. *State of California Fee Allowances:*

Chairman Lum read a communication received from the Pacific Roentgen Society relative to the adjustment of fees to be paid by various departments of the state government for professional services. On motion duly made and seconded, it was voted to refer this matter to the Committees for Emergency Action and Legislation as a part of the overall matter of professional fees to be paid by the state.

9. *Services of Internists:*

Chairman Lum read a communication received from the president of the California Society for Internal Medicine relative to fees paid by the State of California for specialists' services. On motion duly made and seconded, it was voted to refer this to the Commission on Medical Services, for study and

a progress report to the Council by January, 1960, and a final report before the 1960 Annual Session.

10. *Migrant Farm Workers:*

Councilor MacLaggan gave a progress report for the Committee on Rural Health, which is currently studying the problem of medical care for migrant farm workers. The Committee is investigating the problems peculiar to both native and alien farm employees and will make a later report.

11. *Commission on Medical Education:*

On motion duly made and seconded, it was voted to approve an invitation to be issued to Dr. Lauren V. Ackerman of St. Louis to appear as a guest speaker on the 1960 Annual Session program of the Committee on Scientific Work.

12. *Commission on Professional Welfare:*

Councilor Kirchner reported that the Medical Review and Advisory Board would work with representatives of the hospital organizations on matters of professional liability insurance coverage.

13. *Dates for Annual Session:*

Mr. Hunton reviewed the dates reserved for annual sessions for the next five years.

14. *Olympic Winter Games, 1960:*

Councilor Davis reported on his inquiries into the setup for medical services for the 1960 Olympic Winter Games, scheduled to be held in Squaw Valley in February. He introduced Dr. Crawford Sams, chairman, and Dr. W. W. Stiles, secretary, of the Medical Advisory Committee to the Organizing Committee of the VIII Olympic Games, who outlined the medical procedures planned for the care of contestants, spectators, employees and press representatives at this event.

Dr. L. Henry Garland, a member of the National Ski Patrol System, also commented on these arrangements and expressed the wish of that organization to make sure that medical care arrangements were proper and adequate.

On motion duly made and seconded, it was voted to express a vote of confidence to Drs. Sams, Stiles, Garland and their associates and to communicate with the Organizing Committee with a view toward proceeding as expeditiously as possible with the completion of medical care arrangements for the various groups involved, with physicians who work with the National Ski Patrol System and other organizations to be scheduled for professional services under the direction of the Medical Director of the Organizing Committee and its Medical Advisory Committee.

15. *Commission on Public Policy:*

Committee on Legislation: Dr. Dan O. Kilroy, chairman of the Committee on Legislation, reported

that the American Medical Association would sponsor a meeting in St. Louis on October 2 and 3 for the discussion of federal legislation proposals and that he, Mr. Salisbury and Dr. J. Lafe Ludwig would attend.

Dr. Kilroy also reported that his committee was arranging the appearance of representatives at a Congressional hearing to be held in San Francisco October 28 and 29.

Messrs. Read and Salisbury reported on interim committee hearings scheduled by a number of committees of the California State Legislature and reported that adequate representation would be provided.

16. *Legal Department:*

Mr. Hassard reported that Congress has passed and sent to the President (who is considered sure to approve) S. 2162, a bill to provide contributions to federal employees toward the purchase of health care insurance coverage. The plan would go into effect July 1, 1960, to cover about 2,000,000 federal employees and their families. The government would provide a portion of the premium cost to each employee.

17. *State Department of Public Health:*

Dr. Robert Dyar of the State Department of Public Health reported that the department has established a division of research, to serve as a staff arm of the director's in such matters as air and water pollution, radiation hazards, alcoholism rehabilitation, etc.

Dr. Dyar also reported on the success of a program of the department's under which medical students are recruited for summer periods for studies designed to orient the students in public health responsibilities.

18. *California Physicians' Service:*

Dr. Heron reported that the commercial program of California Physicians' Service was operating on a basis to cover all costs and that the total business of C.P.S. during the past year amounted to more than \$60,000,000 gross, including about \$22,000,000 in funds for governmental programs.

19. *New and Miscellaneous Business:*

(a) Mr. Hunton presented the application of two members who had previously requested the use of portions of the Association's mailing list and such use had been denied. On motion duly made and seconded, it was voted to reaffirm this denial.

(b) Communications from a member asking Council support of a proposal to establish a new

scientific section were presented. On motion duly made and seconded, it was voted to advise the writer of the procedure for establishing a new scientific section under an amendment to the By-Laws.

(c) Councilor Gifford urged that all possible assistance be given to the California Medical Assistants' Association, a statewide organization of employees of physicians.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:25 p.m.

DONALD D. LUM, M.D., *Chairman*

MATTHEW N. HOSMER, M.D., *Secretary*

CONSTITUTIONAL AMENDMENT OFFERED

(Second Printing)

A proposed amendment to the Constitution of the California Medical Association was offered at the 1959 session and, in accordance with provisions of the Constitution, was referred to the Reference Committee on Amendments to the Constitution and By-Laws. The proposed amendment must lie on the table for one year and be published twice during that period in CALIFORNIA MEDICINE.

The reference committee suggested that this proposal be studied by the Constitution Study Committee during the year. The proposal will be referred in 1960 to a reference Committee for additional study and recommendations to the 1960 House of Delegates.

Constitutional Amendment No. 1.

Author: Arthur Olson.

Representing: Santa Barbara County Medical Society.

Resolved: That Article VIII of the Constitution of the C.M.A. be amended by renumbering the present sections in said Article to 2, 3 and 4 and inserting a new Section 1 as follows:

Section 1.—Eligibility for Appointment

Eligibility for appointment or election to any position, to any committee, or to in any way represent the C.M.A., or to formulate policy for C.M.A., shall depend on the member's not holding a salaried position with or acting in an advisory capacity for, or being retained by a commercial insurance company or health plan which handles health or accident problems during the term of election or appointment. Nor shall such delegates or committee members hold a remunerative political position either appointive or elective. Association with California Physicians' Service is specifically excluded.

In Memoriam

BORDEN, FREDERICK (FRED) WALLACE. Died in San Francisco, September 24, 1959, aged 65, after cardiac operation. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1929. Licensed in California in 1930. Doctor Borden was a member of the Santa Clara County Medical Society.



CALDER, JAMES RALPH. Died August 18, 1959, aged 40. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, Canada, 1947. Licensed in California, 1955. Doctor Calder was a member of the Los Angeles County Medical Association.



DILLINGHAM, FRANK S. Died August 31, 1959, aged 80, of coronary thrombosis. Graduate of University of Southern California School of Medicine, Los Angeles, 1900. Licensed in California in 1900. Doctor Dillingham was a retired member of the Los Angeles County Medical Association and the California Medical Association and an associate member of the American Medical Association.



DILLON, JAMES R. Died in Napa, October 6, 1959, aged 75. Graduate of Cooper Medical College, San Francisco, 1912. Licensed in California in 1912. Doctor Dillon was a retired member of the San Francisco Medical Society and the California Medical Association and an associate member of the American Medical Association.



MERRILLAT, IRENE S. Died in Glendale, September 25, 1959, aged 61. Graduate of Stritch School of Medicine, Loyola University, Chicago, Illinois, 1925. Licensed in California in 1932. Doctor Merrillat was a member of the Los Angeles County Medical Association.

NEWMAN, HENRY WISE. Died in Belvedere, September 19, 1959, aged 52. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1931. Licensed in California in 1931. Doctor Newman was a member of the San Francisco Medical Society.



OTTO, FRANK WESLEY. Died September 23, 1959, aged 67. Graduate of College of Physicians and Surgeons, Los Angeles, 1921. Licensed in California in 1921. Doctor Otto was a member of the Los Angeles County Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.



SMITH, M. ZENOS. Died August 30, 1959, aged 46. Graduate of Baylor University College of Medicine, Houston, Texas, 1941. Licensed in California in 1954. Doctor Smith was a member of the Santa Clara County Medical Society.



WAKEFIELD, ROBERT S. Died September 4, 1959, aged 34. Graduate of University of Texas Southwestern Medical School, Dallas, 1953. Licensed in California in 1954. Doctor Wakefield was a member of the Riverside County Medical Association.



WELLS, WALKER MARSHALL. Died September 23, 1959, aged 56, of myocardial infarction due to arteriosclerotic heart disease. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1937. Licensed in California in 1937. Doctor Wells was a member of the Alameda-Contra Costa County Medical Association.



PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

STATE AND FEDERAL matching funds totalling \$15,-641,234 were allocated to 32 hospital and health center construction projects at the late September meeting in Los Angeles of the State Advisory Hospital Council of the California Department of Public Health.

The funds, which represent two-thirds financing of the projects, were allocated to general, psychiatric and chronic hospitals, nursing homes, diagnostic and treatment centers, rehabilitation facilities and public health centers.

By category, the funds were allocated as follows (the amounts shown represent total state-federal matching funds):

General: Mono County Hospital, \$237,230; Intercommunity Hospital, Covina, \$1,033,480; Queen of the Valley Hospital, Covina, \$2,231,250; Antelope Valley Hospital, Lancaster, \$1,175,272; San Benito Hospital, Hollister, \$659,802; Wheeler Hospital, Gilroy, \$689,264; Marin General Hospital, San Rafael, \$1,486,374; St. Jude Hospital, Fullerton, \$735,057, and Southern Monterey County Memorial Hospital, King City, \$573,280.

Psychiatric: Pacoima Memorial Lutheran Hospital, Pacoima, \$278,414; The Gateways, Los Angeles, \$580,420; St. Francis Hospital of Lynwood, \$360,-328; St. Joseph Hospital, Orange, \$278,464, and Methodist Hospital of Southern California, Arcadia, \$100,732.

Health Centers: Monterey County, \$370,750; Sonoma County, \$211,090; Stanislaus County, \$293,406; Ventura County, \$285,550, and Los Angeles County, Western District, \$199,810.

Chronic: St. Francis Hospital of Lynwood, \$570,-498.

Nursing Homes: Sharp Memorial Community Hospital, San Diego, \$279,400; West Contra Costa County Hospital District, San Pablo, \$279,400; St. Joseph's Nursing Home, Ojai, \$116,214; St. John's Hospital, Oxnard, \$139,062; Tulare Hospital District, Tulare, \$198,020; St. Agnes Hospital, Fresno, \$188,344, and Mercy Hospital, Sacramento, \$157,-736.

Diagnostic and Treatment Centers: Monterey County Hospital, Salinas, \$131,516, and East Bay Children's Hospital, Oakland, \$384,806.

Rehabilitation: Casa Colina Rehabilitation Center, Pomona, \$216,056; Crystal Springs Rehabilitation Center, San Matco, \$239,260, and Memorial Hospital of Long Beach, \$265,804.

Progress in the development of air quality and motor vehicle exhaust standards in the control of air pollution was described at an October meeting of the State Board of Public Health.

The proposed standards were for presentation at a public hearing in Los Angeles, November 10, and will be submitted to the Board of Health for approval at its December 4 meeting in Berkeley.

In compliance with a mandate from the State Legislature, the standards will be submitted to the Governor by February 1, 1960. The air quality standards will reflect the relationship between the intensity and composition of air pollution and health, illness, including irritation to the senses, death in humans and damage to vegetation and interference with visibility.

The department has completed a summer training program for 36 medical students from 22 schools. Each student was assigned to a specifically planned project with a tutor. In this experience the student acquired some skill in the delineation of a problem, the definition of objectives, the development of protocol and the collection and analysis of data.

Projects included the study of occupational hazards in the explosives industry, the association of respiratory disease mortality to air pollution, social problems in the operation of nursing homes, determination of vitamin C levels and needs in older persons, the study of neurotropic virus diseases, investigation of an outbreak of Q fever, the relationship of suicide to homicide, studies of chronic alcoholism and the evaluation of case-finding of congenital anomalies.

Students were selected on the basis of scholarship, interest in the program and recommendations from medical schools in the country. Twenty-nine of the students indicated a desire to return next year and 23 said they would be interested in a similar program in the health department of their own state.

3 POSTGRADUATE COURSES

During
C.M.A. ANNUAL SESSION

February 21 to 23, 1960 • Los Angeles

THE CALIFORNIA MEDICAL ASSOCIATION in cooperation with the Medical Schools of UNIVERSITY OF CALIFORNIA, LOS ANGELES, UNIVERSITY OF SOUTHERN CALIFORNIA and COLLEGE OF MEDICAL EVANGELISTS, will present three Postgraduate Courses during the Annual Session in February. These courses will be clinically oriented and will include case presentations and closed circuit television.

Choose the course which most interests you, follow the course, and the 1960 session will send you back to your practice stimulated and refreshed.

Look for the program giving complete details which will arrive in your office in January.

• By UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE, LOS ANGELES:

INFECTIOUS DISEASES—9 hours.

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: February 21 at Chapman Park Hotel, February 22 and 23 at Ambassador Hotel, Los Angeles.

• By UNIVERSITY OF SOUTHERN CALIFORNIA:

CLINICAL ENDOCRINOLOGY—9 hours

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: February 21 at Los Angeles County Hospital, February 22 and 23 at Ambassador Hotel, Los Angeles.

• By COLLEGE OF MEDICAL EVANGELISTS:

MINOR SURGERY IN THE OFFICE—9 hours

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: White Memorial Hospital, Los Angeles.

Tuition Fee: \$25.00 for each course

----- APPLICATION FOR ENROLLMENT -----

Mail to: POSTGRADUATE ACTIVITIES, CALIFORNIA MEDICAL ASSOCIATION
2975 Wilshire Boulevard, Los Angeles 5, California

With check or money order in the amount of \$25.00 made payable to CALIFORNIA MEDICAL ASSOCIATION

Name _____

Address _____

I am in General Practice _____ I limit my practice to _____

Medical School Attended _____ Year of Graduation _____

Please enroll me in the course indicated by ✓.

- ☐ 1. Minor Surgery in the Office (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 2. Infectious Diseases (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 3. Clinical Endocrinology (9-hour course, Sunday, Monday and Tuesday mornings)

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

Eighty-ninth Annual Session CALIFORNIA MEDICAL ASSOCIATION Los Angeles, California FEBRUARY 21*-24, 1960

HOTEL ROOM RATES †

AMBASSADOR HOTEL	Single	Twin Beds	Suites
3400 Wilshire Boulevard			
Main Building.....	12.00-22.00	16.00-26.00	32.00-44.00
Garden Studios.....	18.00-28.00	22.00-32.00	44.00-58.00
CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard.....	9.00-10.00	14.00	20.00
Bungalows.....		16.00	25.00-40.00
THE GAYLORD HOTEL			
3355 Wilshire Boulevard.....		12.50	18.00
HOTEL CHANCELLOR			
3191 West Seventh Street..	9.00	12.00	
SHERATON-WEST (formerly Sheraton-Town House)			
2961 Wilshire Boulevard.....	12.50-18.00	17.50-23.00	34.00

ALL RESERVATIONS MUST BE RECEIVED BEFORE: JANUARY 15, 1960

*February 20: House of Delegates will start with evening meeting Saturday, February 20.

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION

693 Sutter Street

San Francisco 2, California

Please reserve the following accommodations for the 89th Annual Session of the California Medical Association, in Los Angeles February 21-24, 1960. (House of Delegates members: First meeting of House begins Saturday evening, February 20.)

Single Room \$..... Twin-Bedded Room \$.....

Small Suite \$..... Large Suite \$..... Other Type of Room \$.....

First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date):..... Hour:..... A.M. P.M. } Hotel reservations will be held until
Leaving (date):..... Hour:..... A.M. P.M. } 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type

Name.....

Address.....

Officer?..... Delegate?..... Alternate?.....

County.....

City and State.....



WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION

THE FALL CONFERENCE of the Woman's Auxiliary to the California Medical Association was held in Santa Barbara, September 21 through 23, 1959. This was a "workshop" meeting for State Board members, county auxiliary presidents and presidents-elect, branch chairmen, presidents, and presidents-elect and all other interested auxiliary members.

There were 129 auxiliary members registered at the conference, including the National Auxiliary president, Mrs. Frank Gastineau, 32 State Board members, 30 county presidents, 25 county presidents-elect, 13 branch representatives and 28 guests. Santa Barbara Auxiliary provided 12 hostesses to facilitate transportation from the airport and to conduct tours in the Santa Barbara area.

Mrs. Gastineau addressed the members attending the opening meeting of the conference on September 21 at the Santa Barbara Biltmore Hotel. She gave a most informative talk on auxiliary policies and the problems facing the medical profession today. In her summary she advised us to "remember that the bouquet handed to you by the government has been picked from your own yard."

At our dinner meeting on Monday evening honoring Mrs. Gastineau and Dr. T. Eric Reynolds, president of the California Medical Association, Dr. Reynolds spoke to us on "Problems of the Aging." He added ways in which the county auxiliaries might be of help in assisting the Homemaker Services and similar organizations that are already established in many communities to help the aged population.

Dr. Arlo Morrison of Ventura, a past president of the California Medical Association, Dr. William Quinn, president of the Los Angeles County Medical Association, and Mr. Robert Huber, representing legal counsel for the C.M.A., shared the speakers' platform at our final meeting on Wednesday morning.

Dr. Morrison talked to us on legislation. He outlined the structure of the legislature with its 40 senators and 80 assemblymen. The California Medi-

cal Association has three full-time lobbyists and when the legislature is in session the chairman of the C.M.A. Legislative Committee and a member of the legal counsel for the C.M.A. attend the meetings for a total of five representatives for the C.M.A. Dr. Morrison also told how legislative bills are written and introduced and how these bills may be changed, rewritten or killed in committee.

Dr. Quinn set the stage for his more serious discussion of the "Attitude of the Doctor's Wife Toward His Profession and the Community" by relating a few anecdotes. He offered some excellent advice, most pertinent was that "the doctor's wife should learn when to keep her mouth shut."

Mr. Huber discussed the admission tax that affects the auxiliary fund raising projects. He stated that convention and conference expenses incurred by auxiliary members are *not* tax-deductible. Nursing scholarship funds that have been raised in the counties by ticket sales advertised for that purpose should not be used for other purposes, he cautioned.

We are indeed grateful to Drs. Reynolds, Quinn and Morrison and Mr. Huber for taking time from their busy schedules to come to Santa Barbara to speak at our conference. It exemplifies the unity and understanding between our Auxiliary and the California Medical Association.

During the conference a startling fact on Auxiliary membership figures was reported by Mrs. Warren Bostick, first vice-president and state membership chairman. There are 17,150 members in the C.M.A. and only 6,753 auxiliary members. In the unorganized counties there are approximately 200 doctors' wives eligible for membership while in the organized counties there are almost 10,000 doctor's wives in this category. We all have much work to do in the counties to interest eligible women in our auxiliary program.

Any C.M.A. member whose wife does not belong to the auxiliary is herewith urged to extend to her our special invitation to join us.

MRS. THEODORE A. POSKA
*President, Woman's Auxiliary to the
California Medical Association*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The Twelfth Annual Midwinter Radiological Conference, sponsored by the Los Angeles Radiological Society, will be held at the Statler Hotel, Los Angeles, on Saturday and Sunday, January 30 and 31, 1960. Guest speakers will be Dr. John A. Evans, New York, Professor Knut Lindblom, Stockholm, Dr. James J. Nickson, New York, and Dr. E. Rohan Williams, London. The conference fee of \$20.00 includes two luncheon meetings featuring questions and answers. Further information may be obtained from Dr. Sidney D. Zucherman, 3741 Stocker Street, Los Angeles 8.

* * *

The Research Study Club of Los Angeles will hold its 29th annual Mid-Winter Convention in Ophthalmology and Otolaryngology, January 18 to 22, 1960, at the Ambassador Hotel, Los Angeles. Registration will begin January 17.

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Dr. Joseph de los Reyes was elected a vice-president of the International College of Surgeons at the organization's annual meeting held in Chicago in September.

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Doctor Fred B. Moor, professor of physical medicine and rehabilitation at the College of Medical Evangelists School of Medicine, has been awarded the gold key of the American Congress of Physical Medicine and Rehabilitation for outstanding services in the field of physical medicine and rehabilitation. The award was made at the recent annual meeting of the organization in Minneapolis.

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Dr. Clarence W. Dail of Los Angeles has been elected president of the American Academy of Physical Medicine and Rehabilitation for 1959-1960.

SAN DIEGO

Dr. William W. Belford of San Diego was installed as the thirtieth president of the American Academy of Pediatrics at the academy's annual scientific meeting at the Palmer House in Chicago.

SAN FRANCISCO

Dr. John W. Cline was elected president-elect of the American Cancer Society at the annual meeting in New York last month. He will succeed to the presidency in 1961 and will serve as a vice-president in the interim.

Dr. David A. Wood was named to the executive committee of the board of directors of the Society.

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At a meeting early last month the San Francisco-Stanford Hospital elected the following new officers: Dr. Forrest M. Willet, president; Dr. Victor Richards, vice-president; and Dr. Arthur Jampolsky, secretary.

The last of six in a series of lectures on **Medical Aspects of Workmen's Compensation** will be held Thursday afternoon, November 19, between 1:30 and 6 o'clock, in the auditorium of the San Francisco Medical Society. The lecture program has been presented by a subcommittee of the Industrial and Public Health Committee of the San Francisco Medical Society in cooperation with the San Francisco Workmen's Compensation Insurance Group.

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The opening of the new **Medical Library at San Francisco-Stanford Hospital** was celebrated Friday evening, October 30, 1959, with a reception for San Francisco physicians, staff members and a distinguished group of emeritus professors from the Stanford University School of Medicine. The library is located in the former surgical teaching ward of Linc Hospital. Mrs. Maria Martinez is head librarian. Miss Clara Sue Manson, Lane Library librarian, supplied a large number of duplicate volumes upon the removal of Lane Library to the Stanford University campus.

SANTA CLARA

A book of delightful recipes, *Culinary Capers*, has just been published and put on sale by the North Branch Woman's Auxiliary of the Santa Clara County Medical Society. Profits from sales will go to the Children's Health Council of the Mid-Peninsula, which operates the "super clinic for kids" described by Milton Silverman in one of his articles in the *Saturday Evening Post* during the past year.

Mrs. W. Norman Sears and Mrs. Julian Pichel, the editors, have drawn on members for favorite recipes. The book is attractively laid out and sensibly bound with a spiral wire backbone for easy use on a kitchen counter. It is priced at \$2.20, but it is also offered at wholesale to other auxiliaries that may wish to sell it and retain profits for their own projects. Retail or wholesale, the books may be ordered from Mrs. J. Mayfield Harris, 11519 Crooked Creek Drive, Los Altos, California.

GENERAL

At a recent 1959 Scientific Assembly held by the **California Academy of General Practice** in Los Angeles, outgoing president Carroll B. Andrews of Sonoma passed on the presidential gavel to Leon O. Desimone of Los Angeles, and the Congress of Delegates elected Clarence T. Halburg, Redlands, to the office of president-elect. Dr. Halburg, who has been serving as Academy secretary, will be installed as president at the 1960 Assembly. J. Blair Pace of Oceanside was elected secretary.

In other action the Congress reelected Burt L. Davis, Palo Alto, speaker; Ralph L. Bennett, M.D., Los Angeles, vice-speaker; J. Alison Cary, Morgan Hill, American Academy of General Practice delegate; Daniel A. Tobin, Sacramento, American Academy of General Practice alternate; John A. Ariaudo, El Centro, District I director, and Leland Blanchard, San Jose, District VII director.

New directors elected were Harold E. Petersen, San Fernando, replacing Bernard J. Harvey, Monrovia, as one of the two District IV directors; and James J. Benn, Ripon, who succeeds John T. McNally, Stockton, as director of District X.

The board of directors elected Dr. Andrews to the executive committee and reelected John A. C. Leland, Berkeley, treasurer, and Frank W. Norman, Santa Rosa, editor of *California GP*.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Morgoret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

6th Annual Symposium for X-ray Technicians. Saturday and Sunday, December 5 and 6. Ten and a half hours. Fee: \$15.00, includes Saturday lunch.

Clinical Traineeships—Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Special Announcement: A Postgraduate Course in Mexico City, in cooperation with Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina, Mexico, D. F. Instructional Staff will be drawn from the staff of the U.C.L.A. School of Medicine and the staff of the Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina. The program will include lectures and presentation of Clinical Cases in: Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. Wednesday, February 25 through Saturday, March 5, 1960.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Recent Advances in External Diseases of the Eye. Thursday through Saturday, December 3 through 5. Twenty-four hours. Fee: \$60.00.

Vectorcardiography. Sunday, December 6. Seven hours. Fee: \$15.00.

Disorders of the Liver. Friday through Sunday, December 11 through 13. Twenty-one hours. Fee: \$50.00.

Man and His Environment—The Air He Breathes. Saturday through Monday, January 16 through 18. Twenty-one hours.*

Course for Physicians in General Practice (Mt. Zion Hospital, San Francisco). Monday through Friday, March 7 through 11. Thirty-five hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOnrose 4-3600, Ext. 665.

* Fees to be announced.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday. **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, Stanford Hospital, Clay and Webster Streets, San Francisco.

For information contact: Dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$75.00 including lunch.

Bedside Cardiology. Thursdays, February 4 through April 21. Twenty-four hours. Fee: \$65.00.

Therapeutic Interviewing. Thursdays, February 11 through April 28. Twenty-four hours. Fee: \$100.00.

Symposium on Hypertension. Friday, March 11. Seven hours. Fee: \$7.50.

Dermatology Clinic, One-Day Symposium. Thursday, March 24. Seven hours. Fee: \$25.00.

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through June 14. Twelve hours. Fee: \$37.50.

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16. Twenty hours. Fee: \$100.00.

Practical Diagnosis and Management of Cardiovascular Diseases. Dates to be announced. Twenty-one hours. Fee: \$75.00.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

Diseases of the Chest: Two and four-week Traineeships in cooperation with the Los Angeles County Hospital. Dates as arranged.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 4 through April 13, 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1, 63 hours. Fee: \$75.00.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. *Contact:* Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, Angelus 2-2173.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, March 7 through 11. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. Angelus 9-7241, Ext. 214.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

ANNUAL SESSION POSTGRADUATE COURSES

Infectious Diseases. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9:00 to 12:00 noon. February 21 at Chapman Park Hotel, February 22 and 23 at Ambassador Hotel, Los Angeles. Program by University of California School of Medicine, Los Angeles.

Clinical Endocrinology. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9 to 12 noon. February 21 at Los Angeles County Hospital, February 22 and 23 at Ambassador Hotel. Program by University of Southern California School of Medicine.

Minor Surgery. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9 to 12 noon. All sessions at White Memorial Hospital, Los Angeles. Program by College of Medical Evangelists.

POSTGRADUATE INSTITUTES—1960 (Tenth Anniversary Year)

West Coast Counties in cooperation with University of California, San Francisco, February 4 and 5. Del Monte Lodge, Pebble Beach. *Chairman:* Robert A. Helfrich, M.D., 440 E. Romie Lane, Salinas.

North Coast Counties in cooperation with College of Medical Evangelists, March 31 and April 1. Flamingo Hotel, Santa Rosa. *Chairman:* H. Ward Wick, M.D., 858 Fourth Street, Santa Rosa.

Southern Counties in cooperation with Stanford University School of Medicine, April 21 and 22. Palm Springs Riviera. *Chairman:* Robert M. Zweig, M.D., 7004 Magnolia, Riverside.

San Joaquin Valley Counties in cooperation with University of Southern California School of Medicine, April 28 and 29. Ahwahnee Hotel, Yosemite. *Chairman:* Campbell H. Covington, M.D., 2057 High Street, Selma.

Sacramento Valley Counties in cooperation with UCLA School of Medicine, July 1 and 2. Tahoe Tavern, Lake Tahoe. *Chairman:* Herbert W. Korngold, M.D., 1217 30th Street, Sacramento.

Contact: One of the chairmen listed above, or Postgraduate Activities Office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, Hubbard 3-3451.

Medical Dates Bulletin

NOVEMBER MEETINGS

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS—District VIII Annual Meeting. Each morning, November 15 through 21. Royal Hawaiian Hotel, Honolulu. *Contact:* Harold K. Marshall, M.D., Secretary-Treasurer, District VIII, A.C.O.G., 202 Professional Building, Glendale.

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lectureship Dinner. November 20, Biltmore Hotel, Los Angeles. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State Street, Los Angeles 33.

INTERNATIONAL COLLEGE OF SURGEONS, Second Western Regional Meeting, Stardust Hotel, Las Vegas, Nevada, November 22 through 24. *Contact:* F. M. Turnbull, Jr., M.D., secretary-treasurer, 1930 Wilshire Boulevard, Los Angeles 57.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS Fifth Annual Postgraduate Course on Diseases of the Chest, December 7 through 11. Ambassador Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, Executive Director, 112 East Chestnut St., Chicago 11, Ill.

JANUARY 1960 MEETINGS

MARIN COUNTY HEART ASSOCIATION Cardiac Resuscitation. Each Saturday morning 8:30 to 12 noon, January 9 through February. Marin General Hospital. *Contact:* Jean M. Brown, executive director, 2044 Fourth Street, San Rafael. GLENwood 4-7347.

LOS ANGELES COUNTY HEART ASSOCIATION Fourth Annual Midwinter Symposium. January 13, 9:00 a.m. Statler-Hilton Hotel. *Contact:* Walter S. Graf, M.D., Chairman, Professional Symposium Committee, Los Angeles County Heart Association, 660 So. Western Avenue, Los Angeles 5.

ORANGE COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease. January 23, 8:30 a.m. to 5:30 p.m. Gourmet Restaurant, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, Executive Director, P. O. Box 1704, Santa Ana, KImberly 7-5976.

WESTERN ASSOCIATION OF PHYSICIANS. January 27 through 29. Carmel, California. *Contact:* Wade Volwiler, M.D., secretary, Department of Medicine, University of Washington, Seattle 5.

FRESNO COUNTY HEART ASSOCIATION Central California Eighth Annual Physicians Symposium. January 29, 8:30 a.m. to 5:30 p.m. Elks Club, Kings Canyon Road, Fresno. *Contact:* Max S. Millar, M.D., Chairman, Professional Services Committee, Fresno County Heart Association, 329 No. Van Ness, Fresno 1.

FEBRUARY 1960 MEETINGS

CONTRA COSTA COUNTY HEART ASSOCIATION Postgraduate Course for Physicians. Eight 2-hour weekly meetings. Monday, 8 to 10 p.m., beginning February 1. Contra Costa County Hospital. *Contact:* (Mrs.) Loyse C. Casebolt, executive director, 2030 N. Main Street, Walnut Creek.

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7. Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting. February 21 through 24. Palm Springs. *Contact:* Carleton Mathewson, M.D., professor of surgery, Stanford Hospital, San Francisco.

MARCH 1960 MEETINGS

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31. Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

APRIL 1960 MEETINGS

AMERICAN SOCIETY OF INTERNAL MEDICINE. April 1 through 3. Mark Hopkins Hotel, San Francisco. *Contact:* Mr. Robert L. Richards, executive director, 350 Post Street, San Francisco 8.

AMERICAN COLLEGE OF PHYSICIANS Annual Meeting, April 4 through 9. Mark Hopkins and Fairmont Hotels, San Francisco. *Contact:* E. R. Loveland, executive secretary, 4200 Pine Street, Philadelphia 4.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION Annual Convention. April 23 and 24. Claremont Hotel, Berkeley. *Contact:* Mrs. Anne Reece, President CMAA, 1837 So. Indiana St., Porterville, California.

MAY 1960 MEETINGS

HAWAII MEDICAL ASSOCIATION Annual Meeting. April 28 through May 1. *Contact:* Miss Lee McCaslin, executive secretary, 510 S. Beretania, Honolulu 13.

PAN AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11. Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach. May 4. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

VALLEY CHILDREN'S HOSPITAL Spring Clinics. May 5 through 7. Roosevelt High School auditorium, Fresno. *Contact:* Valley Children's Hospital, Shields and Millbrook Avenues, Fresno.

NEVADA ACADEMY OF GENERAL PRACTICE 1960 Annual Assembly. May 12 through 14. Riverside Hotel, Reno, Nevada. Scientific program by University of California School of Medicine. *Contact:* Roy M. Peters, M.D., general chairman, 475 So. Arlington, Reno, Nevada.

NATIONAL TUBERCULOSIS ASSOCIATION—AMERICAN TRUDEAU SOCIETY Annual Meeting. May 16 through 19. Statler Hilton and Biltmore Hotels, Los Angeles. *Contact:* Mr. Sherman Asche, general chairman, Annual Meeting Committee, P. O. Box 4037, Santa Barbara.

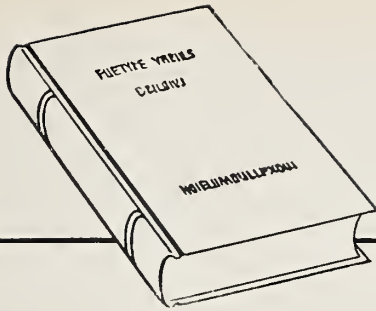
AMERICAN COLLEGE OF NUTRITION 1960 Annual Convention. May 20 through 22. Huntington Sheraton Hotel, Pasadena. *Contact:* Donald B. Haynie, executive secretary, 10651 West Pico Blvd., Los Angeles 64.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 23 through 25. Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

FALL 1960 MEETINGS

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION combined Meeting with 4th Western Industrial Health Conference. October 7 through 9. Jack Tar Hotel, San Francisco. *Contact:* Vern G. Ghormley, M.D., president, 3032 Tulare Street, Fresno 21.



THE PHYSICIAN'S *Bookshelf*

METALS AND ENGINEERING IN BONE AND JOINT SURGERY—Charles Orville Bechtol, M.D., Professor of Orthopedic Surgery and Chairman of Orthopedic Division, University of California, Los Angeles; Chairman of Subcommittee on Testing, Prosthetics Research Board, National Research Council; Albert Barnett Ferguson, Jr., M.D., Silver Professor of Orthopedic Surgery, and Chairman of Orthopedic Department, University of Pittsburgh; Children's and Presbyterian Hospital, Pittsburgh; and Patrick Gowans Laing, M.B., B.S., F.R.C.S., Assistant Professor of Orthopedic Surgery, University of Pittsburgh; Chief of Orthopedic Service, U. S. Veteran's Hospital, Oakland, Pittsburgh. The Williams & Wilkins Company, Baltimore 2, Maryland, 1959. 186 pages, \$8.00.

Surgeons have long felt the need for a reliable source of information on metallic implants. Such information has been hard to get, scattered as it is among metallurgical, engineering and other books and journals. Indeed, even when at hand such articles are often difficult to understand because of the engineering and metallurgical terminology—little understood by the average physician. In this book by Bechtol, Ferguson and Laing, this language barrier has been annihilated, the whole subject being simplified and clarified in the language of the practicing surgeon. All phases are illustrated by charts, diagrams and photographs of excellent quality. It contains a wealth of information on the structure of metals, their fabrication into implants, their uses in bone and joint surgery, their care before implantation and what can be expected of them under various environmental and stress conditions after implantation.

With the development of aseptic operating room technique, open reduction of fractures and the use of internal fixation devices became practical and popular. During the early 1900's Lambotte of Brussels plated hundreds of broken bones experimenting with different types of alloys in various shapes and sizes. In his book on this subject are pictured early examples of marrow nailing. The struggle against infection waxed unabated. W. A. Lane (1895) championed a "no touch" technique and so popularized the use of bone plates that to this day many "old timers" automatically say "Lane Plate" whenever the subject is mentioned. The important work of a number of surgeons is succinctly summarized, including a reproduction from the 1913 article of Hey-Groves showing various metallic gadgets, rods, cylinders, and springs inserted in the marrow canals of fragments of experimentally produced fractures. At about the same time Sherman's quest for a "more elastic" plate led to his popularizing the vanadium steel plate which reigned practically unchallenged for some two decades. Early this century it was discovered that Chromium mixed with a Cobalt base produced a new metal with such stellar quantities, that it was called Stellite.

Shortly thereafter surgical implants of this new metal (Vitalium) appeared on the scene. Since Venable and Stuck (1937) published their experimental work on the remarkable corrosion resistance of Vitalium, Cobalt base implants have increased in popularity. During these decades the qualities of stainless steel have also been improved.

Today it can be safely said that the throne long occupied by King Vanadium has fallen to a dual occupancy by stainless steel and Vitalium.

Laymen and even some physicians tend to think of bone as an inert, unchanging substance and that a metallic implant is even more static and indestructible. Nothing could be further from the truth. Metals tend to oxidize or corrode, this process being assisted by the acid environment of a fresh fracture, the salinity of tissue juices, or the electro-chemical action of dissimilar metals of an electrolyte process set up between areas. Furthermore, it is now recognized that corrosion may occur between two pieces of similar metal or between different areas of the same plate because of varying degrees of hardness. Against this, metal has a limited capacity to resist corrosion by the spontaneous formation of a thin film of oxide on its surface. Scratching or bending a metallic implant during insertion removes this protective film and hastens the corrosive process. Metals continually shed so that the surrounding soft tissues are slowly saturated with metal which may lead to aseptic inflammation many years after implantation. For this reason metallic implants in young or middle-aged people should always be removed when they have served their purpose.

In addition to these above-described reactions to environment the "internal structure" of metallic implants changes as the result of oft-repeated bend or torsion stresses. Fracture (fatigue) of plates or screws results directly from such repeated stresses rather than age. An implant may break under the repeated occult bending stresses inherent in normal usage of a well-knitted bone. An implant will always fracture in the presence of non-union unless, of course, the screws have so loosened that stresses are no longer transmitted to the plate.

The raw surfaces of such fatigue fractures are characteristic and recognizable. These characteristics are described and there are excellent photographs illustrating them. Methods of measuring hardness of metal, its ability to resist stress and changes produced by bending are described in a way easily understood by those unfamiliar with metallurgy.

The internal structure of metals, how faults and undesirable inclusions may appear in their basic crystalline structure is described and pictured. This is followed by a short discussion of stainless steel, its manufacture, the three main types in common use and finally a description of the type (316) now used by American manufacturers of surgical implants. The essential requirements of metallic corrosion resistance, strength without brittleness, ease of workability, availability and economy are discussed. Vitalium, the popular Cobalt based alloy, is very corrosion resistant but has to be cast and is hence quite expensive. Titanium and Zirconium are corrosion resistant pure elements which may be more extensively employed in the future.

When a non-corrosion resistant, "soft metal" screw driver is used, tiny metallic fragments are transferred to the screw slot. A "slipping screw driver" will not only damage the oxide surface of the plate but will seed the plate with a

different type of metal. In the same way fragments from hammerheads, punches, etc. seed the ends of prostheses and nails. Thus corrosion currents are established.

The author thus recommends the use of double slotted screws held in a screw-holding screw driver. To further reduce metal transfer and corrosion arising from surface damage he makes many suggestions, a few of which are:

1. Avoid dumping screws and plates together in a box.
2. Keep implants of different composition carefully separated.
3. Avoid seizing screws with a hemostat (unless rubber shod).
4. Never re-use an implant.
5. Never clamp a plate to the bone with a metal clamp.

Dr. Bechtol drilled various sized holes through one cortex of dog femurs and measured the force necessary to fracture them—small holes decreased the breaking strength almost as greatly as larger holes. Conclusion: There is no advantage in making holes smaller than 20 per cent of the outside diameter of the bone. As a result of his extensive experiments, he is able to lay down certain criteria for the manufacture of a more perfect drill for use in bone surgery. These include a chisel point tip whose angle is 90° instead of the customary 56° and dull edges on the spiral flute to prevent reaming out of the hole caused by wobbling. In the application of a bone plate only a limited amount of periosteal stripping is safe—hence bone plates must be small and are necessarily less strong than normal bone. In experiments T or I beam shaped nails are 300 to 400 per cent stronger in resistance to bending force than tri-flanged nails. Parham bands of Vitalium inserted around the mid-femur of dogs, for six weeks caused no grooving from bone absorption under the bands and left the breaking strength unimpaired. He recommends use of the lag screw principle when fixing a spiral fracture, by drilling a slightly larger hole in the proximal cortex. After experimenting with many types of screws he concluded that the size and threads of standard bone screws now in use are quite satisfactory and there is no need for change in design.

DON KING, M.D.

* * *

CLINICAL DERMATOLOGY—For Students and Practitioners—Harry M. Robinson, Jr., B.C., M.D., Professor of Dermatology and Head of the Division of Dermatology, University of Maryland School of Medicine; Chief Dermatologist, University Hospital; and Raymond C. V. Robinson, B.S., M.D., M.Sc. (Med.), Associate Professor of Dermatology, University of Maryland School of Medicine; Assistant Chief of the Dermatology Clinic, University Hospital. The Williams & Wilkins Company, Baltimore 2, Maryland, 1959. 242 pages, \$8.50.

This is an attractive two hundred twenty-eight page book. The pages are larger than those of many standard texts, measuring approximately seven and one-half by ten inches. It is printed in double columns on fine paper and in legible type which makes for easy reading.

It appears to be a prime consideration of the authors to present dermatology in a brief and concise manner. The subjects discussed are carefully organized and outlined into major divisions set apart in bold type with subdivisions identified by paragraphing, italics, indentations, outlines and charts. A few drawings and numerous black and white reproductions of photographs are used effectively.

The book is divided into two main sections. The first sixty pages are entitled "General Considerations." The following subjects are presented: (1) Anatomy of the Skin; (2) Physiologic and Chemical Functions of the Skin; (3) Etiology of Dermatoses; (4) Diagnostic Procedures; (5) Dermal Histopathology; (6) Mycology; (7) Allergy; (8) Occupational Dermatoses; (9) Venereal Diseases; (10) Psychosomatic Medicine Applied to Dermatology; (11) Therapy.

Considering the scope of the material and the limited space allotted, I believe this part of the book is excellent.

The remainder of the book is headed "Morphologic Dermatology." First come fourteen pages of lists, outlines and charts. In these the common dermatoses are classified as to type of *primary lesion* (macule, papule, vesicle, pustule, et cetera), *configuration* (annular, linear, grouped, et cetera) and other *special features* (excoriations, ulcers, alopecias, et cetera). They are charted as to region or site of predilection, special morphologic features, secondary lesions, subjective symptoms, etiology, diagnostic tests, et cetera.

The remainder and bulk of the book divides the common dermatoses into the following classifications: (1) Macular Eruptions; (2) Papular Eruptions; (3) Vesicular Eruptions; (4) Pustular Eruptions; (5) Eruptions Involving the Scalp and Other Hairy Areas; (6) Lesions Involving the Mucous Membranes; (7) Sweat Gland Lesions; (8) Nail Lesions; (9) Tropical Diseases; (10) Peripheral Vascular Diseases. Each disease in each of these classifications is then outlined under the following sub-headings: (1) Synonym; (2) Sites of Predilection; (3) Objective Symptoms; (4) Subjective Symptoms; (5) Etiology; (6) Histopathology; (7) Diagnostic Aids; (8) Relation to Systemic Disease; (9) Differential Diagnosis; (10) Therapy.

Finally, there is an extensive index.

There are obvious advantages and also some disadvantages to this method of presentation. Among the latter is the fact that the features of many skin diseases are so variable as to defy arbitrary classification in any single morphologic category. This leads to both duplication of material in a few cases and oversimplification in others.

I believe the value of the book is well summarized in the "Foreword" in which it is stated, "The authors, drawing from their vast clinical experience, have prepared a text which is suited ideally as a primer in dermatologic diagnosis for the medical student primarily." It should also serve well as a supplement to lectures in dermatology for student nurses. Finally, it should be helpful for a quick review of dermatology by physicians in general practice or those specializing in other fields than dermatology."

H. V. ALLINGTON, M.D.

* * *

HANDBOOK OF DIET THERAPY—Third Edition—Written and compiled by Dorothea Turner, Department of Medicine, University of Chicago, for the American Dietetic Association. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois, 1959. 222 pages, \$5.00.

The third edition of the Handbook of Diet Therapy (since 1946) has expanded from 112 to 222 pages. The purpose remains the same: to provide aid in naming, defining and describing therapeutic diets in line with dietetic principles. Definitions of dietetic terminology are included in a 15-page glossary which appears as an appendix. Therapeutic diets are considered as modifications of the normal diet and as such are planned to meet or exceed the dietary requisites of the normal.

In this third edition, basic patterns of diet are outlined in terms of five commonly used food groups. These include the milk group, the vegetable and fruit group, the meat group, the bread-cereal-potato-legume group, and the fats and sweets. Since this fifth group adds little in proteins, minerals and vitamins, it is considered separately from the other four, which contain the essential food elements other than calories.

This handbook is most authoritative in its field. Written primarily for dietitians, it can be extremely valuable to doctors, medical students and others interested in diet therapy.

EDGAR WAYBURN, M.D.

AUTOGENIC TRAINING—A Psychophysiologic Approach in Psychotherapy—Johannes H. Schultz, M.D., and Wolfgang Luthe, M.D. Grune & Stratton, New York, 1959. 289 pages, \$9.50.

This book is the first presentation of the psychotherapeutic method of J. H. Schultz to the English-speaking reader. Autogenic training, the technique of autosuggestion which is the subject of the book, was developed during the first quarter of this century. In 1932 Schultz first formulated the procedure and its applications in his work "Das Autogene Training," from which several German editions were thereafter published. The technique of autogenic training was derived from the development of hypnotic procedures and, although it has characteristics that make it a unique technique of psychotherapy, it has to be historically considered in connection with hypnosis.

It is on the basis of some experiences reported by patients in light hypnotic state that the psychotherapeutic technique considered here was originated. Schultz observed that the general relaxation preceding deep hypnosis was consistently accompanied by some somatic sensations reported by the patients. Heaviness and warmth of the extremities were among these sensations. He then thought that the systematic suggestion of some of these feelings in the patients might by itself result in somatic and vegetative relaxation that could be of psychotherapeutic value. The scientific naiveté of this rationale, whereby a mere correlational link is attributed connotations of causality, was, however, no impediment for the elaboration of an actually successful method. And the reason for this success cannot be ascertained, since the physiological mechanisms involved in the use of the method remain obscure.

It is surprising that not until the present time has the method been published in the English language, for autogenic training has been widely used for the last 25 years in many continental clinics, particularly for the treatment of psychosomatic disorders.

The method consists, essentially, of a progressive series of exercises practiced by the patient, at first under the supervision of the therapist and later by himself alone, but always under the direct or indirect guidance of the therapist, who plays a role which could be qualified as pedagogic. The aim of the exercises is the achievement of mental and bodily relaxation, and this aim is reached by following successive "physiological" steps. The steps are attained by means of hetero- or autosuggestion of local changes in the subject's muscular and visceral systems. The fundamental steps are heaviness and warmth of extremities, regularization of heart and respiration, warmth in the abdomen and coolness of the forehead. Verbal formulae, on which the patient has to concentrate mentally, help him to bring about not only the changes suggested but also the experience of them. In addition to the mentioned steps, which constitute the basis of the so-called "standard exercises," the technique makes use of other exercises to fit the particular therapeutic needs of each patient. Various "meditative" exercises, "organ-specific" exercises, and "intentional formulae" can thus be utilized as complementary procedures. Autogenic training is used in the treatment of a great variety of neurotic, functional and characterologic disorders, ranging from psychosomatic syndromes of practically any organ or system to habit disorders and drug addiction.

In contrast with hypnosis, the method calls for an active participation of the patient in the therapeutic process. The authors suggest that an advantage of the method is the fact that the procedure minimizes the dependence of the patient on the therapist. In this respect, although this dependence is less than in other types of psychotherapy, its importance in the successful application of the method cannot be belittled. Furthermore, it is the opinion of many psychiatrists, the

reviewer among them, that autogenic training is very effective when used in conjunction with other forms of therapy. This does not apply to the treatment of all cases, but it is particularly true when deep conflicts play a role in the pathogenesis of a given syndrome. The authors also note that the method helps to make unconscious material more readily available. A logical conclusion from this would be that autogenic training is valuable as an auxiliary method for psychoanalysis. And this seems to be the case in the opinion of many.

The book is clear, as is the method itself, and is rich in well described case material. In the last part of the book there is a description of a series of extremely interesting observations of autonomic changes occurring during the standard exercises of autogenic training. The last chapter, on "theory," is the weakest in the book, although it is perhaps the best that could be written under its heading. The difficulty in explaining satisfactorily the neurophysiological mechanisms involved in autogenic exercises is admitted by the authors. The neurophysiological arguments tentatively proposed are based primarily on the investigations of W. R. Hess on the hypothalamus and also those on the reticular structures of the brain stem. Although the hypotheses are well formulated, the experimental evidence supporting them is poor. It is not the first time in which a good therapy has been found for psychiatric disorders on the basis of little more than empirical evidence. And yet, this does not imply the negation of the proven value of the method.

A very good book. It should be in the library of the psychotherapist.

J. M. FUSTER, M.D.

* * *

MEANING OF POISON, THE—Lloyd G. Stevenson, M.D., Professor of the History of Medicine, Dean of the Faculty of Medicine, McGill University. Logan Clendening Lectures on the History and Philosophy of Medicine—Seventh Series. University of Kansas Press, Lawrence, Kansas, 1959. 53 pages, \$2.00.

The title of this book of lectures is as misleading as a movie title. Actually, there are two unrelated topics discussed. To quote from the statement on the jacket: "The seventh series of the Logan Clendening Lectures on the History and Philosophy of Medicine deals with two aspects of the meaning of 'poison'—'poison as a pathogen in the very broad sense' and 'poison as a tool of research in physiology and pharmacology.' 'Poison, Infection and Contagion' traces the history of the ideas the words represent; 'Hellish Oorali' tells the story of curare."

In a rather hodge-podge but interesting way the author has traced the concept of poisoning from ancient and Biblical writings; he has shown how words with multiple meaning have been mistranslated and how words meaning anger or rage have often a second meaning of poison or venom. A modern example is the French word *rage* which means not only fury or anger, but also hydrophobia. Poison has often been associated with arrows, not only among modern aboriginal races, but also in classical mythology. Dr. Stevenson shows that our word "toxicology" is derived from the Greek word "toxon," meaning "bow" or the adjective "toxi-kon," meaning "pertaining to a bow." Much of the remainder of the first chapter is devoted to the development of the concept of infection and of the confusion of infectious agents with poisons and poisonous emanations.

The second chapter is a very sketchy history of curare, containing many bits of information not previously known to the reviewer. The discussion of poisons, especially curare, as a research tool is too general and leaves the reader wondering just how the tool is used and what is learned by use of the tool.

CLINTON H. THIENES, M.D.

PROCEEDINGS OF THE SIXTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF HEMATOLOGY—Boston, August 27 to September 1, 1956. Grune & Stratton, 381 Fourth Ave., New York 16, N. Y., 1958. 930 pages, \$25.00.

This volume presents over 700 papers, many in abstract, in all fields of hematology. There are sections on leukemia, isotopes (nucleonics), the spleen and hypersplenism, hemorrhagic disorders, anemia and immunohematology. Introductory papers in several sections are of a review nature and of general interest to clinicians. The material is of most interest to the hematologist and investigator and available nowhere else.

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SURGERY IN WORLD WAR II—NEUROSURGERY, Volume I—Prepared and published under the direction of Major General S. B. Hays, The Surgeon General, United States Army; Editor in Chief Colonel John Boyd Coates, Jr., MC; Editors for Neurosurgery, R. Glen Spurling, M.D., and Barnes Woodhall, M.D.; Associate Editor, Elizabeth M. McFetridge, M.A. Office of the Surgeon General, Department of the Army, Washington, D. C., 1958. 466 pages, \$5.00.

This book is the first of two volumes relating the history of neurosurgery in World War II. The present volume is concerned with the administrative problems encountered in establishing an effective neurosurgical service within the Medical Department and also the management of head injuries. The second volume will present the problems of injuries to the spine, including peripheral nerve injuries and rupture of the intervertebral disc. The chapters and authors in the present volume are listed below:

PART I. ADMINISTRATIVE CONSIDERATIONS IN NEUROSURGERY

- I. The Zone of Interior, by Barnes Woodhall, M.D.
- II. The Mediterranean (formerly North African) Theater of Operations by Eldridge H. Campbell, Jr., M.D., (deceased).
- III. The European Theater of Operations, by R. Glen Spurling, M.D.

PART II. THE MANAGEMENT OF HEAD INJURIES

- IV. Historical note, by Barnes Woodhall, M.D.
- V. Head injuries in the Zone of Interior, by Barnes Woodhall, M.D.
- VI. The Mediterranean Theater of Operations, Eldridge H. Campbell, Jr., M.D.
- VII. The European Theater of Operations, by R. Glen Spurling, M.D.
- VIII. The management of acute craniocerebral injuries due to missiles, by Donald C. Matson, M.D.
- IX. Penetrating wounds of the cerebral ventricles, by Henry G. Schwartz, M.D.
- X. Infections following acute gunshot wounds of the brain, by Stuart N. Rowe, M.D.
- XI. Blast concussion and cerebral injuries due to explosion waves, by Fritz J. Cramer, M.D.
- XII. Cranioplasty, by David L. Reeves, M.D.
- XIII. Post-traumatic epilepsy, by A. Earl Walker, M.D.
- XIV. Speech disorders resulting from gunshot wounds of the head and neck, by William G. Peacher, M.D.
- XV. Clinicopathologic aspects of fatal missile-caused craniocerebral injuries, by Eldridge H. Campbell, Jr., M.D., Hartwig Kühlenbeck, M.D., Robert L. Cavanaugh, M.D., and Aage E. Nielsen, M.D.

The first portion of this book which is concerned with the administrative problems in neurosurgery during World War II describes the difficulties encountered in establishing neurosurgical centers both in the zone of the interior and over-

seas. Shortages in equipment and instruments as well as in trained personnel had to be overcome, and it was only through the establishment of rapid training courses in neurosurgery for already experienced general surgeons that it was possible in the early stages of the war to provide adequate professional care. The errors committed and the frustrations experienced in the development of a neurosurgical service and its administration are dealt with frankly.

The chapters concerning various aspects in the management of head injuries are all written by men who played an active role in military surgery. Much of the book was written during 1946 and 1947 which precluded the possibility of long-term follow-up in the treatment of such cases as repair of cranial defects, and cortical excision for post-traumatic epilepsy.

The book is extremely well illustrated and indexed.

This volume should be of particular interest to all neurosurgeons with military experience. It should also be of value to those neurosurgeons concerned only with civilian practice.

* * *

HYPERTENSIVE DISEASE—Diagnosis and Treatment—Sibley W. Hoobler, M.D., Associate Professor of Internal Medicine, University of Michigan Medical School; Director of Hypertension Unit, University of Michigan Hospital. A Hoeber-Harper Book, Paul B. Hoeber, Inc., 49 East 33rd Street, New York 16, New York, 1959. 353 pages, \$7.50.

Hoobler's book is a lucid, detailed discussion of the clinical aspects of hypertension. Written by a man who has devoted most of his professional life to the study of hypertension both clinically and physiologically, the text is authoritative and up to date. It will be of considerable value to the practitioner because of its eminently practical orientation and the specific treatment regimens which complement the discussion of principles. There is a good section on secondary hypertension both curable and incurable, as well as a comprehensive coverage of primary hypertension. Details of the new drugs are amply illustrated and pertinent appendices provide specific instruction.

The book is a valuable addition to the literature on hypertension and will receive favorable acceptance by those physicians eager to have a practical guide to the clinical management of hypertensive patients written by a master in the field.

MAURICE SOKOLOW, M.D.

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PSYCHOTHERAPY AND SOCIETY—Psychotherapy for the Many and the Few—Wladimir G. Elliasberg, M.D., Ph.D., F.A.P.A. Philosophical Library, 15 East 40th Street, New York 16, N. Y., 1959. 223 pages, \$6.00.

Psychotherapy and Society is an extremely difficult book to read—at times because of its language, and at times because of its unpredictable and sudden changes in direction.

It is a book that gives promise of being a commentary on present-day psychiatry and society but loses its objective in attempting too much. It skips from esoteric philosophical concepts to the cost of psychoanalysis and from the recommendation that psychologists be permitted to use hypnosis to the frustrations and conflicts of successful people.

It touches on a wide variety of topics including advertising, propaganda, quackery, mental hygiene, group psychotherapy, psychosomatic medicine, anti-semitism, psychotherapy in Russia, motivation for work, and ethics, in a way that leaves the reader "breathless and bewildered."

The reader will tend to get lost in the vast array of topics and comments. Although it contains many ideas which are thought provoking, it will not appeal to most physicians.

NORMAN Q. BRILL, M.D.

CANCER IN CALIFORNIA—Prepared by California Tumor Registry Bureau of Chronic Diseases. Published by State of California, Department of Public Health, 1959. Complimentary copy received from Malcolm H. Merrill, M.D., Director, California State Department of Public Health and Lester Breslow, M.D., Chief, Bureau of Chronic Diseases, Division of Preventive Medical Services.

This interesting monograph summarizes many facts concerning today's cancer picture in California.

Since 1900, California's population has increased considerably, the estimate for those 65 years and over is 14 times. About 50 years ago, only 6 per cent of deaths were ascribed to cancer; currently over 16 per cent are so ascribed. Allowing for the age differential, the total death rate from cancer has increased slightly in the last 30 years. This increase has been conspicuous in males, chiefly owing to primary bronchial cancer.

Contrary to much of the hysteria in the daily press and in certain other publications, the recorded leukemia death rate, both nationally and in California, has increased only moderately. Most of this "increase" may be due to improved laboratory facilities.

The decrease in female cancer rates is apparently partly due to improved results of treatment in uterine cancer, notably improved radiotherapeutic results in cancer of the cervix.

As of 1956, the five most frequent sites of male cancers in California were: Lung, stomach, prostate, colon and pancreas. The five most frequent female sites were: Breast, colon, ovary, cervix and corpus uteri.

Interesting data on apparent associations with economic conditions, race, and occupation are appended. The officials of the California Tumor Registry under the able directorship of Dr. Lester Breslow, are to be commended for this useful compilation.

L. H. GARLAND, M.B.

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DISEASES OF THE NOSE, THROAT AND EAR—Second Edition—Edited by Chevalier Jackson, M.D., Sc.D., LL.D., L.H.D., F.A.C.S., Late Honorary Professor of Laryngology and Broncho-Esophagology, Temple University Medical Center; and Chevalier L. Jackson, M.D., M.Sc., F.A.C.S., Professor of Laryngology and Broncho-Esophagology, Temple University Medical Center; with the Collaboration of 61 Outstanding Authorities. W. B. Saunders Company, Philadelphia, 1959. 886 pages, 1193 illustrations on 645 figures including 16 plates in color, \$20.00.

Because of its general excellence, and because the extant American texts on this subject were notably archaic, the original edition of Jackson and Jackson's "Diseases of the Nose, Throat and Ear," published in 1944, was particularly well received. Edited by the late Chevalier Jackson and his distinguished son, and consisting of a large number of individual sections each written by an outstanding authority, the first edition of this text was understandably noteworthy. The publication of this second edition of Jackson and Jackson was awaited with keen anticipation.

The basic organization of the book is unchanged. Of the some 107 sections which compose the new volume, only 22 are new or completely revised. The other sections are either unrevised or contain only very minor revisions. The most conspicuous change in the book is the addition of a 79-page section on plastic surgery of the nose written by J. M. Converse. While the exposition and illustrations in this section are very good, Converse's consideration of deformities of the nasal septum is relatively inadequate and his material is not well oriented in relation to current trends in rhinologic surgery. Among the other new sections are those covering diseases of the oral cavity and salivary glands, applied hematology, sensory-neural deafness, psychogenic deafness,

acoustic trauma, aviation otolaryngology, and surgery of protruding ears. Included is a new (but already obsolete) article on stapes mobilization. The portions of the text devoted to laryngology and bronchocosophagology have been partially revised and remain the most valuable parts of this volume.

It is regrettable that the dynamic changes in otorhinolaryngology which have occurred in the fifteen years which have elapsed since the publication of the original edition of this important text are not well reflected in the second edition. This reviewer is unable to recommend the new edition with any degree of enthusiasm. It is not considered to be a suitable text for medical students. The obsolescence of the greater part of this volume and of most of its bibliographic material make it relatively undesirable as a general reference book in otorhinolaryngology. The purchase of this book might be advisable for small medical libraries which do not own the original edition and are in need of material on peroral endoscopy.

CHARLES P. LEBE, M.D.

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SURGERY OF THE FOOT—Henri L. DuVries, M.D., Clinical Instructor in Surgery, Chicago Medical School; Attending Surgeon, Columbus Hospital, Mother Cabrini Hospital, and Frank Cuneo Hospital; Chairman, Dept. of Surgery, Illinois College of Chiropractic and Foot Surgery, Chicago. Foreword by Karl A. Meyer, M.D. Introduction by Edward L. Compere, M.D. The C. V. Mosby Company, St. Louis, 1959. 494 pages, \$12.50.

This encyclopedia of foot injuries, anomalies, diseases and treatment is worth reading and owning. It is an excellent reference text. The result of twenty years' practice limited to the foot, the procedures recommended are well described and usually practical.

Orthopedists will find abundant cause for disagreement with the author. His oversimplified interpretation of muscle function, his repeated quotation of the opinions of other authorities when we want to know his own, his failure to describe the foot supporting apparatus he so frequently refers to, and even his interpretation of the effect of his own operations—all these we object to. Since he touches every other foot problem, the book would have been more complete had he given a few of his practical measures for the management of common foot dermatoses.

Since the majority of the book is devoted to nonsurgical foot problems, the title "Surgery of the Foot" is a misnomer. However, its reading is informative as well as productive of controversies.

ROBERT P. WATKINS, M.D.

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SYNOPSIS OF TREATMENT OF ANORECTAL DISEASES—Stuart T. Ross, M.D., F.A.C.S., F.I.C.S., Diplomate of the American Board of Proctology; Secretary of the American Board of Proctology; the C. V. Mosby Company, St. Louis, 1959. 240 pages, \$6.50.

This handbook of Anorectal Diseases covers the field in about as concentrated or "boiled down" manner as is possible. Discussions, statistics, major surgical techniques and bibliography are deleted and this definitely enhances the value of the book. It is concise, yet well illustrated with 79 clear illustrations.

The author is to be complimented on his ability to put so much "meat" into this small book of 240 pages. The synopsis is to be recommended not only to the general practitioner, for whom it was no doubt primarily written, but also for the general surgeon who all too often finds himself desirous of a bit of *quick* information. This book does just that.

CONRAD J. BAUMGARTNER, M.D.

LEUKEMIA—William Dameshek, M.D., Professor of Medicine, Tufts University School of Medicine; Senior Physician and Director, Blood Research Laboratory, New England Center Hospital, Boston; Consultant in Hematology to the Surgeon-General, U. S. Army; and Frederick Gunz, M.D., Ph.D., Hematologist, Christchurch Hospital, Christchurch, New Zealand; Late Research Fellow in Hematology, New England Center Hospital, Boston. Grune & Stratton, Inc., New York, 1958. 420 pages, \$15.75.

This book, while reflecting the extensive experience of Doctor Dameshek and his group, does not limit itself to the authors' personal feelings. The entire field of leukemia is covered, together with the related myeloproliferative disorders and multiple myeloma. The classification of leukemia is that most generally employed, but the confusing term leukosarcoma is introduced to cover the lymphoma group and the reticulososes; the latter group of localized diseases is not included in the book. It is interesting to hear that in a high proportion of cases of acute leukemia, the blood picture is of little help in differentiating the type of leukemia. Electron and other microscopic and chemical means for studying leukemic cells are reviewed. The illustrations for the most part are very good, although details of single cells are only fair. The general symptoms of leukemia, the clinical picture of each variety, diagnosis and treatment are discussed at length. There is an extensive bibliography, but the index is somewhat limited. Some historical background is presented as an introduction to various sections.

While very readable, one will find this book more valuable for reference than as a monograph for cover to cover reading. It is highly recommended for internists, hematologists, radiologists, pathologists and investigators whose work brings them in contact with the leukemia problem.

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AN INTRODUCTION TO CHILD PSYCHIATRY—Stella Chess, M.D., Associate Clinical Professor of Psychiatry, New York Medical College; Associate Attending Psychiatrist, Flower-Fifth Avenue Hospitals; with a foreword by Lawrence B. Slobody, M.D., Professor of Pediatrics, New York Medical College. Grune & Stratton, 381 Fourth Avenue, New York 16, N. Y., 1959. 254 pages, \$5.25.

DYNAMIC PSYCHOPATHOLOGY IN CHILDHOOD—Edited by Lucie Jessner, M.D., Professor of Psychiatry, University of North Carolina, School of Medicine, Chapel Hill, North Carolina; Faculty and Training Analyst, Washington Psychoanalytic Institute, Washington, D. C.; and Eleanor Pavenstedt, M.D., Associate Professor and Director of Child Psychiatry, Department of Psychiatry, Boston University School of Medicine, Boston, Massachusetts; Faculty and Training Analyst, Boston Psychoanalytic Institute, Boston, Massachusetts. Grune & Stratton, 381 Fourth Avenue, New York 16, N. Y., 1959. 315 pages.

With rare exceptions, the literature in Child Psychiatry consists of diverse material, often excellent, but scattered in journals, collections of articles, and, in the last decade, a series of recorded symposia on growth and development. These two books represent further extensions of efforts to compile such current knowledge for different readers.

The book by Dr. Chess has been designed as a reference book for physicians in general. It presents a fairly clear statement of the practice of Child Psychiatry today. It also shows how child psychiatric techniques, both of diagnosis and management, can be utilized by practitioners other than psychiatrists. One senses that there is considerable emphasis on the organic aspects of childhood disturbances, but the concluding chapters stress the dynamic approaches in such psychiatry and demonstrate clearly the manner in which an analytic psychiatrist goes about the process of diagnosis and therapy.

The collection of articles edited by Jessner and Pavenstedt is designed much more for those actively working in

the field of Child Psychiatry. There is a very real attempt to survey research methods and highly sophisticated treatment methods in this book. It is an excellently organized text, bringing up to date the most active approaches in understanding the many still unclear areas of the psychopathology seen in children.

HENRY H. WORK, M.D.

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INDIVIDUAL AND FAMILIAL DYNAMICS—Science and Psychoanalysis, Volume II—Edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University. Grune & Stratton, New York, 1959. 218 pages, \$6.75.

This book contains the December 1957 and May 1958 transactions of the Academy of Psychoanalysis. The meetings were divided into formal and informal discussions of two unrelated problems of psychiatry, the masochistic patient and the changing concepts of familial and social dynamics. In each section papers were presented and a discussion followed. Perhaps the most striking aspect of this book and in a way a unifying element is the emphasis on the changing concepts in psychiatry pursuant to these two important areas. In each section there is a thread of historical development running throughout.

Part I consists of papers on various aspects of masochism, a panel discussion, and finally a panel review. Numbered among the many contributors are Leon Salzman, Clara Thompson, Paul Hoch, Jules Masserman and Sandor Rado. There are excursions into such areas as masochism in religion, animal experimentation, therapeutic principles, technical difficulties, dynamics and psychogenesis, and counter transference problems encountered with the masochistic patient. There was general agreement on certain essential characteristics of the masochistic problem, i.e., masochism is a ubiquitous adaptive technique involving attempted atonement and a kind of investment for future gratification.

Part II retains the same format and is concerned with the subject of familial and social dynamics. Included among the authors are psychiatry's principal investigators in this field: Nathan Ackerman, Don Jackson, Theodore Lidz, Dorothy Terry, Lyman Wynne and Gregory Bateson. The contributors make it clear that present day psychiatry will no longer subscribe to the position that man can be adequately understood when viewed in isolation.

Martin Grotjahn traces the development of family therapy and Nathan Ackerman also applies the historical approach in tracing the changes in psychoanalytic concepts of the family. Don Jackson explains his application of some communication theory concepts in the understanding of the family. Fleck, Lidz, et al., note that incestuous and homosexual problems occur frequently in the family of schizophrenics and they attribute this to the family disorganization and role confusion. Cultural and subcultural differences in value systems are discussed by John Spiegel, and the consequent necessary modifications in psychotherapeutic approach are discussed. Alexander Gralnick fittingly closes by appealing for a more benevolent view of the families of patients and makes the plea that we do not view families merely as "the cause."

In the discussion of both subjects one is struck by the obvious progress that has been made since Freud's original contributions and it is encouraging to see this body of psychoanalysts so readily criticize, modify and change older psychoanalytic concepts after the recognition of their historical importance. This book is readable, at times entertaining and witty and is, for the most part, informative and enlightening. There is much that is applicable to the treatment situation.

ROBERT F. IVERSON, M.D.

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Whither Medical Education?

MELVIN A. CASBERG, M.D., Ludhiana, Punjab, India

THE BEST PROPHETS, says a French proverb, are children and fools. Yet in sacred literature one finds that St. Paul advises us to "despise not prophesying." Obviously, it is the latter advice that gives me the moral courage to pry into the future and hazard a prophecy concerning medical education. As physicians you are fully aware of the dangers of prognostication and as time in its course unveils the years ahead, you may have good reason to respect the sagacity of French proverbs.

To assess the future with any degree of accuracy requires a knowledge of the present. Furthermore, a better understanding of the future lends intelligence to our present. Abraham Lincoln in his "A House Divided" speech given at the Republican Convention in 1858, said, "If we could first know where we are, and whither we are tending, we could then better judge what to do, and how to do it."

What are some of the major factors influencing medical education today? How will these factors relate to medical education of the future? Are there identifiable educational trends, currently in their infancy, that give promise of future maturation? Which of these trends should be nurtured and which discouraged?

It requires but a modicum of discernment to note that a ferment of change permeates medical educa-

tion today. The genesis of this change relates to a broad spectrum of facets so inextricably bound together as almost to defy separation—facets ranging from the explosive expansion of medical knowledge to the rapidly changing sociological atmosphere of our modern civilization; from the high cost of scientific education to the highly competitive market of faculty recruitment.

The sheer mass of recently discovered scientific knowledge presents a dual task, that of compiling an intelligent inventory of these new facts and, much more difficult, making this mounting volume of knowledge accessible and understandable.

The environment in which the medical graduate will function presents a moving sociological panorama. Among the more significant factors on this landscape are: a continuing emphasis on industrialization: the growing importance of suburbanization, with a migratory pattern leading away from both the concentrated metropolitan areas and isolated rural life; changing patterns of medical care as exemplified by the growing trend toward group practice; the rapid expansion of health insurance; and, finally, the mounting demands of an educated public for health services.

The quality of graduates from medical schools must never be compromised by demands for quantity, yet educators, now or in the future, cannot disregard their responsibility to produce an adequate supply of physicians. This responsibility probably is of greater concern to administrators of public institutions because of their more direct

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Presented at the Sixth Conference of Cardiovascular Training Grant Program Directors, Hershey, Pennsylvania, June 7, 1959.

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relationship with legislative bodies which are sensitive to public demands. Studies in this general area of supply and demand of medical personnel—fraught as they are with qualitative and quantitative variables and assumptions—usually receive but cool recognition from medical educators. And, when one adds to the above difficulties the political implications and notorious vagaries of statistical interpretations, the whole task becomes herculean. But, difficulty of accomplishment should not be a valid excuse for lack of action in an attempted solution of this particular problem.

While it is true that few are prepared to define a satisfactory physician-population ratio, projected estimates can be established with sufficient statistical worthiness to permit application of a variety of ratios within a generally acceptable range. Certainly, making an attempt to evaluate this problem, despite possible inaccuracies and the necessity for assumptions, is a more intelligent course of action than to take no action whatsoever.

Another problem that currently faces schools of medicine is the high cost of scientific education. Costs have become staggering. For example, the total anticipated operational budget for the 82 approved American medical schools, exclusive of research and hospital costs, is more than 130 million dollars a year. In comparison, the total income of all 155 schools of medicine in 1910 was less than the operating budget of one of our better-endowed schools of today.

Tuition fees in 1910 covered 70 per cent of the cost of medical education; today, less than 20 per cent. The average cost-per-year of training one student in 1920 was approximately \$500; today it is around \$4,500.

Reasons for this high cost of education are not difficult to determine. They all point to the simple fact of progress. The unprecedented advance in medical scientific knowledge in the last fifty years has required improved teaching methods with a highly competent faculty, expanding facilities and expensive equipment. In spite of these seemingly logical explanations, the cost factor still presents a desperate issue. Costs of medical education are different and are not duplicated in other scientific educational fields. To the extent that these costs are met, medical schools will have an opportunity to function adequately and efficiently.

It should surprise no one to learn that the market for scientific faculty continues to be highly competitive. Bidders for professional services are no longer limited primarily to university campuses or private practices, but now include the rapidly growing industrial interests. Industry, in many instances, offers an attractive, almost academic, atmosphere with

opportunities for varying amounts of unrestricted research and even teaching.

Before 1900, research played a minor role in the education of physicians. Today, it has become so essential an element of scientific education that it is responsible not only for advancing knowledge but also for recruiting outstanding scholars and faculty, men and women who thrive on the heady diet of exploration and discovery. One of the bonuses of a good research program is that students nurtured in its rich environment acquire a scientific maturity not observed in an atmosphere which is lean in research.

During the 1800's a person went to college to prepare for one of four traditional professions—the ministry, medicine, law or teaching. A hundred and fifty years ago 25 per cent of the college graduates became practicing physicians. This proportion today has dropped to two per cent. There are two major reasons for this proportional decline in the number of college graduates choosing medicine: The great increase in the proportion of youths attending college, and the development of many new professions closely allied to medicine.

Over the past 20 years, and particularly since the onset of the earth satellite era, medicine, as a profession, has encountered stiff competition from numerous scientific fields of interest whose intellectual challenge and social prestige have approached those of the physician. These competitive pressures are further compounded by the increasing demands on time and expense related to the period of medical education, particularly in the growing graduate or specialty programs.

The collective conscience of that portion of medicine within the academic fold, on occasion, suffers from a guilt complex related to graduate medical education. The point of sensitivity centers around the responsibility for education beyond the four undergraduate medical years. The phenomenal growth in specialty education during the past 20 years can be readily illustrated. Before the war in 1941, there were 5,256 approved residencies in all medical fields. After the war, in 1947, this number doubled to 10,422, and since then the figure has tripled to a total of around 30,000.

Willard Rappleye in addressing the Congress on Medical Education and Licensure in February of this year on the subject, "Major Changes in Medical Education During the Past Fifty Years," had this to say about clinical medical education:

"Usually the university is regarded as having the obligation for the preparation of physicians. Today it can meet only a portion of that duty. A substantial part of the clinical education of undergraduate medical students frequently is provided in other than

university hospitals. Two-thirds of the 12,626 approved internships and over one-half of the 31,665 residencies are in such hospitals. Although these appointments are primarily for training, the service features often are more prominent than the educational. The number of men and women in the internship and residency phases of present day over-all medical education and services in both university and non-university hospitals is five times the number of graduates each year from the medical schools."

What should be the role of the medical school in the residency or specialty training program? What is the academic significance of board certification? In reality is this not another degree which certifies a level of education without necessarily granting any privileges of license or practice? Has academic medicine sold its graduate birthright for a mess of pottage?—the mess of pottage in this instance being a relinquishing of responsibilities by default.

Herman Pearce in a recent editorial in a surgical journal⁶ wrote: "The basic difficulty is that regulatory bodies have invaded the field of graduate surgical education despite the fact that they are not educational institutions. Residency training is not an exercise in manual dexterity, nor is it a trade school, but rather is graduate surgical education and, as such, belongs under the jurisdiction of the medical school."

Problems such as these are the daily bread upon which the medical educators of today must feed. There are no indications that the future bill of fare will be any more palatable.

Having taken a precursory glance at medical education of today and having established a base line of sorts, let us now with proper caution and respect open the door into tomorrow and attempt to identify some of the major patterns of the future on the basis of established trends of the present.

THE MEDICAL STUDENT

Ralph Waldo Emerson wrote that the secret of education lies in respecting the student. Certainly, there should be general agreement that the student stands at the very center of medical education. It is only as this concept is fully accepted by the faculty that teaching reaches its highest order. What, then, will be the role of the student in the future of medical education?

Let us explore two major aspects of the matriculant personnel pool of tomorrow in an attempt to determine the characteristics of the medical student of the future. These aspects relate to quality and quantity factors which are difficult to evaluate separately inasmuch as each is closely identified with the other. For example, other things being equal, the

greater the pool of applicants, the better the quality of matriculants. This is amply demonstrated in a comparative analysis of the college records of first year medical students in the class of 1950-1951 (when the number of applicants was 22,279) with those of the class of 1954-1955 (when the number of applicants reached a low of 14,538): The college grades of the former group were made up of 40 per cent A's, 43 per cent B's and 17 per cent C's, while the latter class averaged 16 per cent A's, 70 per cent B's and 14 per cent C's. In other words it appears as though the quality of the medical students of the future is related to the quantity of the applicants.

There is general agreement that the number of college graduates will more than double over the next fifteen years. The percentage of all college graduates entering medicine has decreased rather steadily, from 5 per cent in the early 1920's to 2 per cent during the 1950's. The medical school enrollment as a percentage of the total college enrollment for these same periods was 2.4 per cent and 1 per cent, respectively.

There is a dangerous complacency on the part of far too many medical educators concerning the applicant pool of students. While it is true that even conservative estimates of future college enrollments depict proportions that have been called "tidal waves," careful analysis of related qualifying factors gives cause for some degree of concern. The steadily decreasing proportion of college graduates entering medicine is not merely a relative figure distorted by the growing college population. In the year 1957 to 1958, the last year for which data are at present available, there was an absolute decrease in medical school applicants as compared with the preceding year. This occurred in spite of optimistic predictions based on increasing college enrollments.

Klinger and Gee⁴ in a report on the study of applicants to the medical school freshman class of 1957 to 1958 submitted the following conclusion:

"This 1957-58 applicant study may be characterized by three distinguishing features: a possible decrease in the relative attractiveness of medicine among the nation's college graduates; a change in applicant behavior in terms of application activity, with fewer repeat applicants and larger numbers of applications; and an increasingly apparent shift in the intellectual qualities of the applicant population as measured by MCAT [Medical College Admission Test] performance. All three features are undoubtedly correlated to some degree, but only the latter gives cause for immediate concern. If only MCAT science achievement scores were declining among applicants, it would suggest that students were simply emphasizing breadth in their premedical

preparation. The concomitant decline in quantitative learning ability scores, however, may indicate that medicine is attracting fewer students with the highest aptitude for scientific achievement. Insofar as clinical medicine can advance only as fast as the basic sciences on which it is based, this may reflect only a temporary shift in terms of the laws of supply and demand. But if the present shift continues to the point where the lowest echelon of accepted applicants becomes a group that is incapable of applying scientific advancement and methodology in the treatment of human illness, there will be cause for real alarm."

We cannot escape the fact that both new and old professions in scientific fields closely allied to medicine have created and will continue to create a highly competitive attraction for the students of the kind from which medical matriculants are and will be procured. The scientific professions are vying with each other for the more intelligent college student. This situation, compounded by factors such as the increasing cost and time of medical education as well as the demands for increased enrollment, places the school of medicine in an ever increasing competitive situation.

The medical schools of the future will not be likely to know the luxury of waiting for the better students to beat on their doors of admission. They must look forward to the grim and stark reality of active and painstaking recruitment for even the average applicant.

THE FACULTY

The evolution of American medical education has passed through three major developmental stages: First, and the least complicated, that of the preceptor apprentice association, before (and for a time after) the organization of formal schools of medicine; second, the proprietary schools with their faculties of practicing clinicians; and third, the university-affiliated schools with their core of full-time faculty recruited from both the basic science and the clinical disciplines. The faculties of the medical schools of today, playing the combined role of educator, researcher and administrator, present a versatile profile. Over fifty years ago William Osler⁵ appreciated the peculiar demands on the teacher in medicine when he stated, "The teacher's life should have three periods—study until 25, investigation until 40, profession until 60, at which age I would have him retired on double allowance."

Three clouds loom on the horizon of the future relating to the faculty of medical schools. Any of the three could hamper efforts to develop a medical faculty of the stature and proportion needed through the coming years. The three combined could cripple

the development of quality in medical education. The tragedy of this situation relates to the fact, not appreciated by many of our nation's leaders, that the quality of medical education and the health level of our nation are directly proportional.

President Logan Wilson⁷ of The University of Texas in a recent article on higher education described clearly and simply the first of these problems: "In the recent years of our greatest prosperity we have in effect been letting underpaid teachers subsidize the education of our children. This exploitation has now gone on to the point that new teachers cannot be recruited in sufficient numbers, and among those who are recruited the intellectual caliber is sometimes so inferior as to make a travesty of the complex and difficult task of fitting the oncoming generation for the world of tomorrow."

A philosophy of education which looks to the bargain basement for faculty recruitment will in general yield a product proportioned to the expenditure. The practical realism with which the Russians face the matter of teacher compensation should give us cause for thought. Behind the iron curtain the common laborer receives an equivalent average monthly income of \$125; the high school teacher \$300; the professional man, including the physician, the lawyer, and the engineer, \$400; and, in the leading universities, the professor's monthly salary ranges from \$1,500 to \$2,750. In Russia the income of the university professor is sixteen times that of the common laborer, whereas in America it is only two and a half times this amount.

The second cloud over the future pertains to the highly competitive external pressures placed on the faculty population. These pressures are compounded by the effects of the first cloud, namely, inadequate faculty compensation. In a civilization where the scientist is assuming an ever increasing role of national importance, competitive stress and demands are bound to increase proportionately.

The scientist with academic inclinations is forced to swim against a strong current of financial inducements. The attractions of the private practice of one's profession is a campus influence of long standing, but within recent years many other off campus activities have arisen to tempt the academician. Industry, appreciating certain fundamental attractions of the academic life, in many instances now offers the lure of periodic unrestricted research and even university affiliation. These trends are not presented here for criticism or condemnation but rather as a focus on the critical issue of faculty recruitment. The concept of plentiful and healthful "seed corn" is basic to the farmer's cornucopia. Similarly, the problem of faculty replacement and expansion is a matter of serious concern to medical

educators. This is the third cloud in the sky of the future. Although economic factors weigh heavy in this issue, there is reason to doubt that those factors are the only major ones involved. An evident weakness in the maturation of faculty "seed corn" lies in the very soil of its incubation, the medical school.

Before the cries of "heresy" drown out any further remarks on this unpleasant subject, let those who have the stability that permits constructive self-criticism, analyze the atmosphere of the average medical school of today in terms of potentials of faculty recruitment. Is the rigid curriculum and "lock-step" schedule conducive to interest in an academic future? Is there evidence of intelligent and active effort in the search for those students showing promise of good faculty material? What opportunities are there for a faculty prospect to step off the "conveyor belt" and mature for a period in the basic sciences?

In spite of the fact that the future of faculty recruitment looks somewhat dismal, it would seem proper for us as medical educators to desist from our wailing and gnashing of teeth long enough to set our own house in order. The development of a favorable atmosphere for the incubation of the faculty of tomorrow is something which for the most part is within our power to determine. True, some of the more cynical might point to the lack of adequate funds for scholarships or fellowships to effect such a program, but regardless of certain apparent limitations there is much that can be done to establish a proper ethos.

The solution of problems inherent in faculty recruitment, at present as well as in the future, will require the utilization of all of the resources at hand. This is, and will continue to be, one of the really critical areas in medical education. Even the most optimistic forecast must envisage a continuous struggle on all three fronts outlined in the preceding paragraphs. The price is high but the rewards justify the effort.

THE CURRICULUM

It is little wonder that the medical student, buried under a growing avalanche of scientific facts funnelled through a narrow and relatively fixed period of time, tends to exhaust himself filing bits of knowledge in the cabinet of his memory. The alchemy of the extraction of wisdom from knowledge is a process possessed by a select few.

The distinction between knowledge and wisdom is not merely an exercise in theoretical semantics, but actually is the very issue upon which our success as medical educators will be determined. William Cowper, with poetic understanding has focused on this matter in the following lines:

"Knowledge and wisdom, far from being one,
Have oft-times no connexion. Knowledge dwells
In heads replete with thoughts of other men;
Wisdom in minds attentive to their own.
Knowledge, a rude unprofitable mass,
The mere materials with which wisdom builds,
Till smooth'd and squar'd and fitted to its place,
Does but encumber whom it seems t'enrich.
Knowledge is proud that it has learned so much
Wisdom is humble that he knows no more."

It has become quite the fashion in medical educational circles to revise curricula or to explore techniques of curricular reform. In many instances this activity gives a false sense of security, as though the acts of revision in themselves were indications of progress. Unfortunately, curricular reform for its own sake only increases the demands on the time of an already harassed faculty. Change of any kind develops strong opposition, even in institutions of higher learning. Someone has said that changing a curriculum has all of the public relations hazards and emotional overlays of moving a cemetery.

Curricular studies and revisions are nothing new in the history of medical education and several somewhat unorthodox and long range plans currently are being tested in the United States. Recent experimental approaches relate to the basic problems of curricular time and curricular content.

The matter of conservation of time has been approached from two vantage points—first, the utilization of the usual summer vacations with a resulting continuous class session, and second, the paring down of departmental hours to a bare minimum. Curricular content has been critically evaluated in the light of the increasing scope of medical science as well as the limitations of strict departmental boundaries and inefficient teaching techniques.

An immobile departmentalism can present a serious barrier to the correlation of the medical school curriculum. Correlation, under these terms of reference, works in two dimensions. On the one hand there is horizontal correlation between contemporary subjects such as anatomy and physiology, and on the other hand, a vertical correlation between sequential subjects such as anatomy and surgery. Such a consideration of subject material tends to accomplish two purposes; on the one hand, it decreases overlap and needless repetition and on the other hand it more readily permits a mental integration of diversified scientific facts. How efficient is it, for example, to study the structure of the stomach in the anatomy laboratory and then at a different time and place restudy the neuromuscular functions of this same organ in physiology and again the secretory functions in biochemistry? Many educators feel that this type of time conservation is essential in the light of the constant

expansion of scientific knowledge and a relatively fixed time of four years of medical undergraduate study.

Curricular time and content studies have not been limited to the medical school years alone but have been directed also to the premedical and graduate medical periods. Preparation for medicine is a continuous process extending from the grade school, through the secondary school and college on into the school of medicine and hospital. Thus, the saving of time or the improving of curricular content at any point along this entire academic schedule will, in the ultimate, achieve the desired result.

Many educators have criticized the growing tendency to require a baccalaureate degree for admittance to medical school and plead the cause of a three-year pre-medical program. These protagonists of a shorter period of college preparation present statistics showing better academic accomplishments by those accepted after three years in college. These statistics, however, are colored by the fact that the better student may venture to matriculate in medicine after three years, whereas the poorer student usually desires the stature of an additional year of college. Similarly, at the other end of the schedule of formal medical education there are those who feel that the graduate training period has been lengthened beyond need. Over the past twenty years for the most part the educational and service functions of the internship have been assumed by the senior medical student in his clinical clerkship. Thus, some would argue that the student graduating from medical school is prepared to enter directly into specialty graduate training. Beyond this, there is argument from some quarters that the residency training period itself could be shortened without compromise to the specialty in question.

By way of examples of current studies and experiments certain specific programs are cited. Each of these citations presents ingredients of time conservation as well as curricular revisions, although the particular emphases may not be of equal significance.

The University of Tennessee has adjusted its time schedule of undergraduate medical education to a period of three and one-fourth years. This is accomplished by the utilization of a quarter system wherein a new class is admitted every three months and similarly a class graduated every three months. The matriculating student proceeds through six quarters (18 months) on a regular schedule of classes followed by a nonscheduled quarter for the purpose of review for qualifying examinations before admittance to the clinical years. Following this, he continues through six quarters of clinical

training to graduation. In such a schedule every quarter of the year is identical, for each course must be taught each quarter. Maximal utilization of space and facilities is possible under this system. In order to function efficiently a schedule of this type requires more faculty.

During the war years the American schools of medicine voluntarily accepted a speeded up program somewhat similar in time to that of Tennessee, although under circumstances of faculty shortages and student motivations that seriously complicated the situation. There was almost unanimous agreement among medical educators that the emergency speeding up of medical education through World War II was detrimental to the high standards established in the pre-war era.

Many schools of medicine, to varying degrees, have placed the medical student in a continuous session at the completion of the sophomore year, utilizing the two summers thus available for clinical training. Scheduling of this type has been directed more toward the inclusion of additional training than toward a shortening of time. Parenthetically, in view of the fact that hospitals must function through the entire year, it is simpler and actually more convenient to place the clinical program on a 12-month basis. This is not necessarily true in the basic science years.

The School of Medicine at Western Reserve University in 1952 initiated an experiment in medical education primarily directed toward improving the techniques in teaching. In this program there has been a general de-emphasis of departmental boundaries with the establishment of teaching committees composed of members from representative departments. Correlation of subject material is emphasized and the selection of important educational principles is a responsibility of the teaching committee rather than the individual department. This experiment is related more to curricular content and teaching techniques than to a shortening of the overall educational period, the contention being that even though improvements in teaching eventually must relate to savings in time, the overwhelming growth in medical science will more than absorb any time thus saved.

Johns Hopkins University has inaugurated a revised program of medical education directed toward an attempted solution of three serious defects: the excessive number of years required to train a physician; the dichotomy which exists between the liberal arts and the medical sciences; and the decline of strength in the basic science departments of medical schools.

The plan will allow a limited number of students to matriculate in Johns Hopkins University School

of Medicine after the sophomore year in college and to participate in a medical curriculum scheduled over a five-year period.

Similarly, a selected number of junior students will be admitted to the medical school and in exceptional cases such students may be entered in the second year class. Students who have elected to remain four years in college, or who have taken graduate work, will continue to be admitted to the school of medicine and be placed in the appropriate classes. The program will permit those students selected for early admission to continue their college education after they have begun the study of medicine.

Another time-saving factor in this plan is the proposed absorption of the hospital internship year into the clinical clerkship training period of the senior medical student. Thus under optimum and select conditions a student may obtain his doctorate in medicine, including the equivalent training of one year's internship, all in a period of seven years after entrance into college, as compared to the more orthodox time sequence of nine years.

There is little doubt that experiments of today will modify the medical curricula of tomorrow. However, the changes in time and technique will not be as drastic as some would envision. In retrospect, one of the major curricular modifications over the past quarter century—the long blocks of formal clinical lectures were replaced by the utilization of small group bedside instruction—related to teaching techniques rather than the saving of time.

In hazarding a prophecy envisioning the medical school curriculum of tomorrow, it would appear that the technical changes will focus more in the basic science areas of instruction than in the clinical. Furthermore, in spite of the hue and cry for time saving devices, no revolutionary short-cut in medical education will be forthcoming.

The fundamental changes in curricular technique will focus on the relationship between knowledge and wisdom. The student increasingly will be taught to interpret facts, not as items to tax his overburdened memory, but rather as straws in the bricks of wisdom contributing to creative thought.

If one is faced with the problem of teaching the contents of a telephone book to an illiterate, two alternatives present themselves. Either the illiterate may memorize the names and associated numerals or learn to read. The former is a prodigious and fatiguing task requiring constant memorization to meet the demands of a growing and changing population, the latter uses a basic knowledge to master the vagaries of a mass of facts regardless of their qualitative or quantitative variations.

The future of the graduate training program

over the next two decades envisages certain basic changes. The rotating internship will be absorbed in part by the clinical years of the undergraduate curriculum, and in part by the residency program, particularly the general practice fraction. The straight internship, actually a misnomer, will become what it always has been, namely a part of a specialty training effort. Flexibility of schedule will permit residents to broaden their experience by participation in the educational programs of other than their own specialties.

Certainly the medical educators on the campuses will have an increasing influence on specialty certification and eventually will draw the responsibility for this phase of graduate education into the academic fold. This is not to imply that all specialty training will be carried out in university hospitals, but rather that the medical schools in the future will accept a much broader responsibility in this area of education.

Before leaving the discussion of curricular problems, a final word of caution is in order. This relates to the tendency of fitting the student to the curriculum rather than making an effort to fit the curriculum to the student. The following story (author not known) warns of the tragic dangers of fitting all students into an academic mold:

Once upon a time the animals decided they must do something heroic to meet the problems of a "new world." So they organized a school. They adopted an activity curriculum consisting of running, climbing, swimming and flying. To make it easier to administer the curriculum, all the animals took all the subjects.

The duck was excellent in swimming, in fact better than his instructor; but he made only passing grades in flying and was very poor in running. Since he was slow in running, he had to stay after school and also drop swimming in order to practice running. This was kept up until his web feet were badly worn and he was only average in swimming. But average was acceptable in school, so nobody worried about that except the duck.

The rabbit started at the top of the class in running, but he had a nervous breakdown because of so much make-up work in swimming.

The squirrel was excellent in climbing until he developed frustration in the flying class, where his teacher made him start from the ground up instead of from the treetop down. He also developed "charlie horses" from overexertion and then got "C" in climbing and "D" in running.

The eagle was a problem child and was disciplined severely. In the climbing class he beat all

the others to the top of the tree, but he insisted on using his own way to get there.

At the end of the year an abnormal eel that could swim exceedingly well and also could run, climb, and fly a little, had the highest average and was valedictorian.

MEDICAL RESEARCH

Research in the medical sciences is the wonder child of this age, precocious to an extreme and the favorite of all. There is no indication whatsoever that the future decades will see any loss in either its precocity or popularity.

The Consultants to the Secretary of Health, Education and Welfare on Medical Research and Education, popularly known as the Bayne-Jones Committee, in their final report stated, "The Consultants believe it conservative to project total national medical research expenditures of \$900 million to \$1 billion per year by 1970, as compared with \$330 million in 1957." The committee added that "continuation and expansion of federal support for medical research and education seems inevitable."

It would appear, from present trends at least, that the future of research in medicine appears most promising. The only storm warnings in this area relate to certain indirect effects of a rapidly growing research program on the total picture of medical education.

In Holy Writ are recorded the following words: "For he that hath, to him shall be given: and he that hath not, from him shall be taken even that which he hath." This portion of scripture might well be a pertinent text for the discussion immediately to follow.

Paradoxical as it may seem, some schools of medicine are becoming research poor. The extra demands on the faculty and the budget now imposed by the burgeoning growth of research are detracting from the educational responsibilities of the institution. Truly, those that have are receiving and from those that have not is being taken! And yet a sudden withdrawal of all private and federal research grants would bankrupt American medical education. One of the most fascinating and intricate aspects of the medical school budget is that of exploring the ramifications of research funds. Varying fractions of individual faculty members, secretaries and janitors owe their economic allegiance to an equally variable source of research interests.

There has been much talk of "hard" and "soft" money in medical education, the former term relating to the dollars of the hard core budget and the latter to the less dependable grant money. Although the descriptions are valid to a degree, and

the dangers of budgeting too heavily with "soft" money still obvious, the passage of time and the continued consistencies of the grantors have tended to erase much of the difference between these two categories of funds.

In forecasting developments over the next several decades two changes are envisioned which will go a long way toward erasing existing inequities in the administration of research grants. One change will be the acceptance by the grantors of the responsibility for the actual cost of the overhead of research. The other much needed change will be the granting of research allocations over a five-year period in contrast to the year-to-year nature of present federal grants. These predicted changes will preserve and strengthen the operational budgets of medical schools as well as lend a long range stability currently lacking in many research projects.

Returning to another storm warning in the general area of research in the medical sciences affecting medical education in general, the problem was defined clearly in the Bayne-Jones Report as follows, "The projected rising demand for physicians engaged full-time in research will—as contrasted with the situation in the past—begin to absorb an appreciable proportion of the total output of M.D.s, and therefore make the total production of M.D.s a factor that must be weighed in projecting the nation's medical research effort." A slightly different facet of the same problem also was described in this report: "A major obstacle to the attainment of a well-rounded program of medical research and medical education for the nation as a whole is the fact that career opportunities in academic teaching and research, with respect both to salary and to the absolute number of positions, are inadequate." The projection of this problem into the future will be discussed later in this communication under the subject of supply and demand.

Question has been raised on the campuses of our institutions of higher learning as to the dangers of the large-scale support of committed or directed research. This query is not levelled at the dangers of a federal support *per se*. Experience has demonstrated in a rather convincing manner that the United States Public Health Service, with its committee system of evaluating projects, has been objective in the distribution of research funds. In spite of past fears, there has been little, if any, evidence of federal influence in the use of grants. Parenthetically, this is more than can be said for some areas of private support.

The real substance of the fear being discussed relates to the freedom of research effort in the face of a support restricted to established areas of investigation. Is the research scientist with other

inclinations and abilities forced into certain fields of research simply because funds are available for these specific projects? Dr. Conant,³ past president of Harvard, has spoken to this issue as follows: "The more uncommitted investigators the better . . .;" [however], "forces tend to increase the emphasis on programmatic research. . . . But if it be true, as I believe history shows, that the significant revolutions, the germinal ideas, have come from the uncommitted investigator, then the present trend holds grave dangers for the future of science in the United States."

In a similar vein, Dr. Bronk,¹ past president of Johns Hopkins University, has stated, "There is a grave danger that the present demand by publicists, industrialists, and public administrators for large-scale scientific organization may impede progress."

Those responsible for financing medical education are in agreement that one of the serious budgetary handicaps is that of the relative size of restricted funds. This holds true for almost all fractions of institutional support including research, construction, instruction and maintenance. There is some evidence of a growing liberality in the thinking of those supporting medical education. With a growing enlightenment, the future support of "impractical" and unprogrammed medical research bodes well, or at least better than at present.

SUPPLY AND DEMAND

The matter of supply and demand of doctors poses a critical question today, for the future answer to this issue is dependent on the action of today. The substantial time lag between decision and ensuing results places the utmost urgency on the present.

There is a cleavage of opinion in medical circles concerning the needs for physicians in the future. In general, however, medical educators are unanimous in their opinion that substantially more graduates in medicine will be needed to cope with the predicted population growth.

As our annual population increase is approximately 3,000,000, by 1975, at the current rate of growth, there should be at least 230 million people in the United States. To maintain the present national ratio of physicians to population—1 to 730—we will need by then some 315,000 physicians. With our present census of approximately 225,000 physicians, and taking into consideration the attrition by death, the annual rate of increase of 3,500 doctors will supply approximately two-thirds of the need.

Dr. Vernon W. Lippard, dean of medicine at Yale, testifying recently to the need for increased

financial support for medical education, said that 22 new medical schools were needed merely to maintain our present physician-population ratio in the face of the predicted rise in population by 1975.

Dr. John B. Youmans, in his presidential address before the 68th Annual Meeting of the Association of American Medical Colleges in October of 1957, stated: "No general agreement exists as to the exact number of additional graduates in medicine required within the next decade or two, but there can be no doubt that the number must be increased. Whatever the number may be, it is greater than the medical schools in their present state can produce. Even the new medical schools that are planned or conceived will not produce the needed number and it takes years from planning to graduation."

Dr. Aims C. McGuiness, Special Health Assistant to Secretary Folsom, in addressing the June 1958 graduating class at The University of Texas Medical Branch, had this to say about the shortage of physicians: "Unless our society acts quickly to increase greatly its investment in medical education, we will be desperately short of physicians, technologists, and research scientists, and we will fail to grasp a large part of the opportunity we now have for the improvement of the health of the American people."

The recent Bayne-Jones Report, already alluded to in this paper, emphasizes that fourteen to twenty new medical schools are needed immediately to supply researchers as well as enough physicians to maintain the present physician-population ratio.

Unlike most professions, medicine lends itself to fairly accurate quantitative identification. A physician to be licensed must graduate from an approved school of medicine. Because most physicians remain active professionally throughout their lives, estimates of the current number of medical students and physicians are highly reliable. A simple, but not necessarily valid, appraisal of the adequacy of physicians is that of the physician-population ratio. Over the past thirty years there has been no remarkable change in the present national ratio of 1 to 730.

Fifty years ago a physician-population ratio carried greater significance as a measure of the availability of medical services to a community. Today, there are numerous variables which qualify the value of such a ratio, variables such as the ease of modern communication; development of competent paramedical professions; education of the American public; greater demands of medical research, industrial health, federal medicine, and health administration on the medical personnel pool; increased efficiency of the physician; the growing body of specialists, and many others.

The mere presence of any given number of physicians cannot assure a particular standard of medical care. The important factor in any evaluation of a physician-population ratio is that of professional quality. Not only is this a matter of individual proficiency but also of the correct distribution of particular skills. A plethora of specialists and a scarcity of general physicians might add up to an apparently adequate number of physicians and yet result in an inadequate medical service to a community.

No longer is the national demand for doctors related only to the matter of practicing physicians. Dr. James A. Shannon, Director of the National Institutes of Health, recently stated in an interview that the greatest single challenge to progress in American medical research today is the financial crisis of our schools of medicine. He added that if our research effort is to continue to grow, as the nation's needs demand, the educational system upon which it is based must be strengthened.

The question of enough physicians is not an easy one to answer. No simple mathematical formula has been developed that will determine accurately this nation's need for doctors. However, medical educators agree that our schools of medicine are not producing sufficient numbers of physicians to meet the national demands of the future. Certainly, one answer lies in the establishment of new medical schools.

In light of the critical struggles of established medical schools with their inadequate budgets, and the constantly rising costs of medical education, the immediate establishment of fourteen to twenty new schools of medicine would appear somewhat optimistic. Aside from the herculean task of the rather precipitous recruitment of a faculty, which probably would be accomplished at the expense of existing schools, each new school would require a capital investment estimated most conservatively at an average of some 25 million dollars.

Another approach advocated by some as a means of increasing the number of graduates in medicine, is that of increasing the current class size. Many educators believe that class size is closely related to the quantitative and qualitative adequacy of undergraduate medical education. Although there is no consensus among medical educators as to the optimum size of classes, most believe that the quality of education is compromised by classes exceeding 100 students.

Private schools of medicine are not susceptible to public pressures to increase enrollments as are state schools. Note the 1956-57 freshman class sizes of the following better-known private schools of medicine: Cornell, 84; Duke University, 78; Emory,

74; Harvard, 115; Johns Hopkins, 78; Stanford, 62; Washington University (St. Louis), 86; Western Reserve, 91; Vanderbilt, 54, and Yale, 80. The average freshman enrollment of all 78 approved four-year schools of medicine is 98; the average for the 42 private medical schools is 93, that for the 36 state schools is 105.

The logic behind limiting class size is that medical education is graduate education and does not lend itself to mass production. Research is an integral part of this form of education and as such cannot be handled in large group assignments but rather through the medium of small units. Similarly, clinical instruction at a patient's bedside requires a close faculty-student relationship of the preceptor variety.

It is not easy to refute the arguments of those who would remove limitations on class size and attempt to double enrollment merely by doubling faculty and facilities. The qualitative educational results of a quantitative manipulation of this type are extremely difficult to assess. How does one determine the professional efficiency of a graduate in medicine? (At what time in his career should this determination be made?) In general, however, medical educators believe that the quality of instruction is sacrificed by large classes. Their belief is attested by the fact that the ten well-known private medical schools listed above have an average freshman class of only 80 students, while the average of all 42 of the private schools is 93 students.

What, then, does the future portend concerning the supply and demand for physicians? It appears quite certain that there will be a decrease in the practicing physician-population ratio. Factors contributing to this situation are: the inability of medical schools to keep up with the population growth of the nation, and the increasing demands on the graduating classes for physicians not directly engaged in the practice of medicine.

THE BUDGET

As disagreeable as a discussion of the budget may be to many, nevertheless an appreciation of certain fundamental aspects of the financing of medical education is essential to an understanding of the future. Some of the relationships of the budget to particular facets of the medical school already have been broached in discussions of the faculty and research.

The first statement of fact is that medical education in this nation, as never before in her history, faces an extreme and critical financial crisis. The staggering costs of scientific education have passed the point of conventional support and demand an immediate and drastic remedy. Many would-be specialists in medical education have been offering ad-

vice, particularly what not to do, but in spite of this as well as many good intentions, the response has not been substantial.

Dr. Lowell T. Coggeshall, in his presidential address before the 69th Annual Meeting of the Association of American Medical Colleges in 1958, submitted a possible solution to this financial dilemma. Coming from one who has spent a lifetime in medical education as well as having served as a ranking official in the Department of Health, Education, and Welfare, this recommendation should be given careful consideration. Dr. Coggeshall, in discussing federal support of medical education, had this to say: "To me, these and related questions require an unequivocal answer. After carefully considering the problem for a number of years, may I say that the time for direct federal operational funds, free from any implications of subterfuge, has arrived. Indeed, it is overdue. Such funds should be provided, and I am confident that provisions can be enacted which will result in their intelligent and prudent usage, and without federal control."

One of the major functions of the federal government is that of the assumption of responsibility for essential functions which the local governments and peoples cannot discharge. Evidence is accumulating rapidly which would indicate that medical education falls in this category. Actually, the federal government has been supporting research and the construction of facilities in our schools of medicine, both state-owned and private. Dr. Coggeshall has placed his finger on the issue which will influence more than any other single factor the continued growth of American medicine. This is the very mundane item of an adequate operational budget, the poor stepchild of the academic budgetary household lost amidst the glitter of buildings and the glamor of research.

Bronze plaques commemorating donors are easily fitted on the substance of buildings and names lend themselves rather artistically to the granite cornerstones of research institutes. But rare is the donor with either the foresight or the humility to support the hearthstone of medical education with unrestricted operational funds.

Scrutiny of the budgets of the future will elicit an increasing concern in the matter of cost accounting. This will come as a result of the growing interest of the donor in the exact functions of a gift as well as of the interest of the medical school in a more efficient accounting of funds.

A lack of uniformity in cost accounting has led to considerable confusion on the part of medical schools in their allocation of the cost of medical education. The variety and complexity of medical college organizations and functions have not simplified budget comparisons. This problem is ex-

pressed simply and clearly in an excerpt from a recent survey by the State University of New York on the Study of Medical Education Costs:²

"Let us say that you and your neighbor have bought identical new automobiles. You paid \$4,000 for yours; your neighbor uses his car for business purposes so he paid \$3,000, and his company paid an additional \$1,000. If he told you that his car cost \$3,000, would this be the correct cost or would it provide an appropriate cost comparison?

"This is an illustration of what is happening in medical education. The total costs of medical college programs often are not paid in full by the college, and the proportion of the total cost which is paid by others varies in nearly every instance. The point is that 'medical college expenditures' are not necessarily 'medical college costs.' A simple comparison of expenditures will be of limited value to management.

"We need 'medical college costs' that will give us a picture of the total values being invested in medical college programs—the total amount required to run a medical college. There, 'medical college costs,' first of all, must be complete. If they are to be appropriate for comparative purposes, there is another essential requirement: they must represent an identical combination of cost factors for each college.

"Let us say that you and your neighbor have purchased new cars of the same year, make and model. However, each has a different combination of optional extra-cost features. If we wish to compare costs to see whether or not you have made a 'good buy,' we shall have to deduct the price of certain optional features to get an identical combination of cost factors for each car. This illustrates what needs to be done to develop properly comparable 'medical college costs.'"

An editorial in the November 16, 1957 issue of the *Journal of the American Medical Association*, entitled "Cost of Medical School Activities," reads in part: "... most often the expenses of supporting the complex activities of a medical school and its faculty are interpreted as reflecting solely the cost of educating medical students. There is very little awareness on the part of the general public and incomplete awareness by the profession itself that many of the expensive undertakings of medical schools are not directed solely and often not primarily to undergraduate medical students."

Emory University and the State University of New York have made an analysis of their operating costs in medical education for the academic year 1954-55. This analysis, showing a surprising degree of similarity in the percentage distribution of costs, also points up some of the major areas of medical school responsibility. In these studies,

approximately one-third of the operating costs are directly related to undergraduate medical education, approximately one-third to research and the remaining third to hospital services, graduate and postgraduate education.

Although good cost accounting practices dictate the accurate determination of budget distribution, one cannot assume from these studies that the cost of research and hospital service is unrelated to undergraduate medical education. Any school of medicine that limited its budget strictly to the actual cost of undergraduate education alone would soon fade into mediocrity.

Another essential responsibility of formal medical education relates to the graduate or residency training program. Not only is this continuing the education of a medical student, but also in this capacity the graduate resident contributes substantially to the clinical training of the undergraduate student. The medical colleges, to varying degrees, also carry on educational programs in nursing and other health related sciences.

In view of these broad and varied responsibilities, the accuracy of the total budget of a medical school cannot be determined merely by multiplying the medical student enrollment by the estimated cost-per-undergraduate-student. To understand the operational cost of a medical school, it is necessary to inventory the many facets of its activity, such as those related to undergraduate, graduate and paramedical education, as well as research and patient service. In other words, medical college expenditures are not necessarily medical college costs. This is an area which will receive considerable attention through the coming years.

CONCLUSION

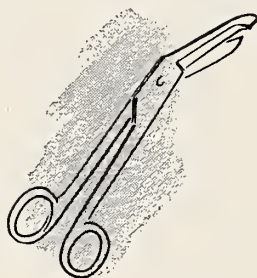
Possibly this prognostication on the future of medical education has seemed unduly weighted with pessimism. Such has not been the intention of the author. In planning a campaign, one highlights the obstacles to be overcome. Correct therapy demands an accurate evaluation of dangerous symptoms.

American medical education has come a long ways during the past half century. During these past decades serious and critical crises have been met and overcome. The future, although presenting many substantial hurdles, holds no insurmountable problems. The ability to initiate and profit by constructive self-criticism is evidence of stable maturity. Let us in medical education give heed to the prophetic challenge, written in the *Book of Proverbs*, and echoed down through the centuries, "Where there is no vision, the people perish."

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Formation, Structure and Function of Cartilage

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WITHIN THE PAST DECADE, the literature pertaining to the chemical and physiologic features and the growth of cartilage has become voluminous and highly revealing. The increased activity in research has been due in large measure to the availability of research tools and methods not previously known, among them electron microscopy, radioisotope techniques, improved histochemical techniques and improved macrochemical and microchemical analytic and synthetic methods.

It is the purpose of this communication briefly to summarize some of the significant contributions resulting from these improved research methods during the past decade and to indicate the possible clinical importance in the fields of arthritis, cartilaginous tumors, congenital and growth deformities and, in particular, in the consideration of transplantation of hyalin cartilage.

Carbohydrate Metabolism

The presence of large quantities of glycogen in the cytoplasm of cartilage cells was first described by Rouget³⁰ in 1859. His observation has been a factor in many theories including the following:

1. Glycogen derivatives through phosphorylation and transphosphorylation provide the substrates for phosphate esters utilized in calcification (Gutman and Yü).²¹
2. Glycogen, through its carbohydrate breakdown products, is a precursor of chondroitin sulfate in cartilage matrix (Zambotti).³⁵
3. Glycolysis and the aerobic metabolism of carbohydrate may provide energy necessary for synthetic functions involved in the formation of collagen and of new bone at the epiphyseal line (Harper).²²

Recent observations indicate that glycogen in cartilage is involved in all these functions and perhaps in others still to be discovered. The author's own observations recently presented⁴ indicate that when rapidly growing cartilage is deprived of the normally available amount of glucose, the quantity of matrix formed about each cartilage cell is greatly reduced.

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• Improved investigative techniques including electron microscopy, isotope tracings and improved histochemistry have greatly increased knowledge of the function of cartilage as a body tissue. Highly complex and delicate enzyme systems contained in the cartilage cell are involved in cartilage matrix formation and in the processes of calcification and cartilage repair. Heat, various drugs, freezing, and changes in the chemical environment damage or destroy these enzyme systems and interfere with the growth and function of cartilage. Hyaline cartilage to be transplanted must be handled with great care to preserve the cellular enzyme systems—otherwise the graft will be resorbed and clinical failure will result.

Almost every enzyme involved in the process of anaerobic and aerobic glycogen metabolism has been detected in cartilage by various investigators (Table 1).

There is indirect evidence that other enzymes in the glycolytic cycles are also present in cartilage. Blocking experiments have indicated that triosephosphate isomerase and phosphoglyceromutase (triose mutase) are present in addition to those enzymes already identified.

The establishment of the presence of glycolysis in cartilage provides foundation for the assumption that glycogen is involved in the production of phosphate esters needed for calcification. It has been further shown by Gutman and Yü that calcification in cartilage cannot proceed when the glycolytic enzymes are inhibited.

An interesting sidelight of considerable importance is the demonstration by Tulpule and Patwardhan³³ that vitamin D is necessary in epiphyseal cartilage to facilitate the Krebs cycle oxidation of pyruvates. This indicates that vitamin D deficiency may actually operate by retardation of one or more steps in aerobic glycolysis, thus preventing the formation of substances essential for calcification.

Production of energy is a direct result of glycolysis, and of oxidation of carbohydrate in the Krebs cycle. These reactions take place in cartilage. It is not yet known how this energy is utilized.

Synthesis of Chondroitin Sulfate and Sulfate Exchange in Cartilage

Chondroitin sulfate (Chart 1) is the principal carbohydrate component of cartilage matrix. It

TABLE 1.—Glycolytic Enzymes Present in Epiphyseal Cartilage

Enzyme	Reference
Glycogen phosphorylase.....	Gutman and Gutman (1941) ²⁰
Hexokinase.....	Cobb (1953) ¹²
Phosphohexose-isomerase.....	Gutman and Yü (1950) ²¹
Phosphohexose kinase.....	Albaum, Hirschfield and Sobel (1952) ¹
Aldolase.....	Albaum, Hirschfield and Sobel (1952) ¹
Triosephosphate dehydrogenase.....	Albaum, Hirschfield and Sobel (1952) ¹
Enolase.....	Albaum, Hirschfield and Sobel (1952) ¹
Lactic acid dehydrogenase.....	Albaum, Hirschfield and Sobel (1952) ¹
Citrogenase.....	Dixon and Perkins (1952) ¹⁵
Aconitase.....	Dixon and Perkins (1952) ¹⁵
Isocitric dehydrogenase.....	Dixon and Perkins (1952) ¹⁵
Coccarboxylase.....	Follis and Melanotte (1956) ¹⁸
Coenzyme-A—DPN—dehydrogenase.....	Zambotti and Lorenzi (1953) ³⁴
Succinic acid dehydrogenase.....	Albaum et al. (1952)
	Follis (1949) ¹⁷
	Castellani and Zambotti (1954) ⁹
	Follis and Melanotte (1956)
Malic-dehydrogenase.....	Follis and Melanotte (1956)

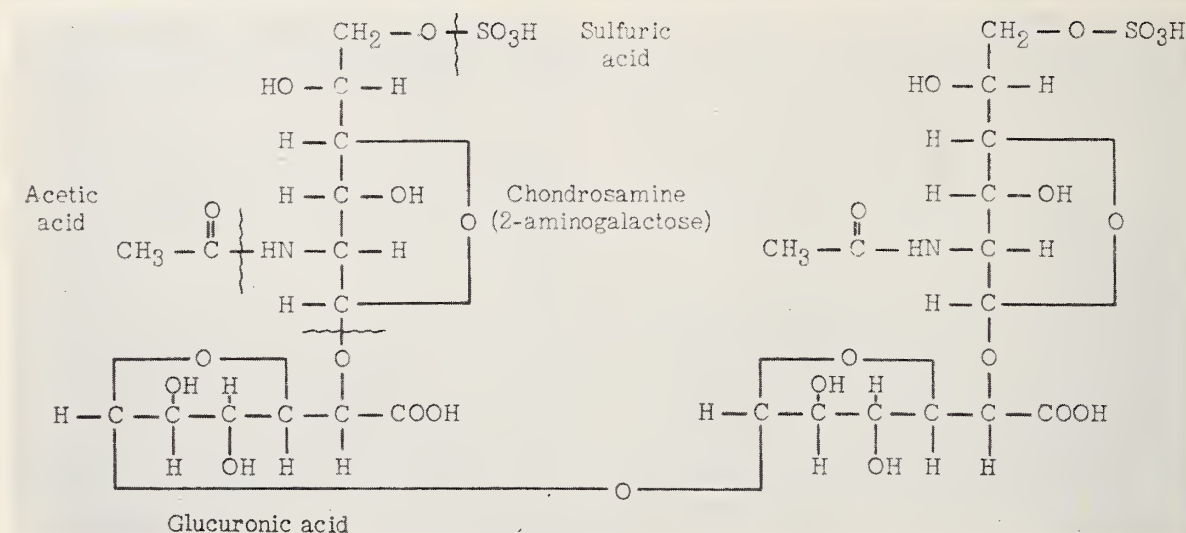


Chart 1.—Chondroitin sulfuric acid.

is composed of alternating units of sulfated acetyl-galactosamine and glucuronic acid.¹⁴ It occurs polymerized to a molecular weight varying between 100,000 and 2,600,000.

Approximately 10 per cent of chondroitin sulfate occurs as a free substance; the remainder is linked to protein. This protein is partly collagen and partly other nonperiodic and nonfibrous proteins. The nature of the bonds between chondroitin sulfate and protein are of importance because the strength and resiliency of cartilage appears to be directly related to the integrity of this bond. Cartilage becomes soft and loses its normal structure when treated with the enzymes trypsin and papain which destroy protein, or with hyaluronidase which hydrolyzes chondroitin sulfate.

Meyer,²⁵ who intensively studied cartilage proteins and their linkages, concluded that linkages of

several types are probably present between matrix proteins and polysaccharides, but that salt linkages predominate. Such bonds are subject to cleavage by enzymes and by changes in hydrogen ion concentration.

Chondroitin sulfate is present especially in the immediate vicinity of the cartilage cell. This suggests that the cartilage cell is responsible for the production of chondroitin sulfate either by direct synthesis or by alteration of the surrounding tissue fluids in such a way as to bring about the deposition of chondroitin sulfate.

Evidence has rapidly accumulated to show that all the enzyme systems necessary for the synthesis of chondroitin sulfate are present in the cartilage cell and that these enzymes are more active in rapidly growing epiphyseal cartilage than in resting cartilage.

Castellani and Zambotti¹⁰ in 1956 reported the presence of a thermolabile enzyme system in epiphyseal cartilage which catalyzes the synthesis of hexosamine from glutamine and glucose 6-phosphate. This process is ten times more active in epiphyseal than in tracheal or costal cartilage.

The synthesis of the glucuronic acid portion of chondroitin sulfate in cartilage was reported by Castellani in 1957.¹¹ This process involves the dehydrogenation of uridine-diphosphoglucose (UDP glucose) to uridine-diphosphoglucuronic acid (UDP glucuronic acid) in the presence of oxidized diphosphopyridine nucleotide (DPN). The UDP glucuronic acid is later split to UDP and glucuronic acid or conjugated with sulfated UDP-galactosamine to form the chondroitin sulfate molecule.

The various steps in the enzymatic synthesis of chondroitin sulfate from glycogen have been postulated by Zambotti and are set forth in Chart 2. This is slightly modified from a similar scheme published by Roden²⁹ in 1956.

Reactions 1, 2, 3 and 4 (Chart 2) are glycolytic cycle steps, Reaction 5 has been established by Castellani and Zambotti and 5a by Leloir and Cardini.²³ Reactions 7 and 8 were determined by Boström and Månsson⁶ and by Brown⁸ in 1953. Reactions 9 and 10, and 12 to 15 are concerned with uridine nucleotide and coenzyme transfers, several of which have been observed in cartilage and others observed by Glaser and Brown¹⁹ in the synthesis of hyaluronic acid.

The exact mechanisms of sulfate fixation (reactions 11 and 12) are not entirely clear. The fact that fresh cartilage combines sulfate has been amply shown by Pelc,²⁸ Dziewiatkowski,¹⁶ Boström and Månsson,⁷ and Amprino.³

In this connection, the work of Boström and Månsson is of interest, as they studied with great detail the effects of many factors on the enzyme system responsible for the incorporation of labeled sulfate into chondroitin sulfuric acid.

Under carefully controlled experimental conditions they were able to determine the characteristics of the enzyme system involved in the sulfate incorporation into bovine nasal and costal cartilage. Briefly, the uptake of S^{35} -labeled sulfate by bovine cartilage is catalyzed by an enzyme system which is oxygen-dependent, temperature-dependent, and is destroyed by freezing and thawing, by heating, by damage to the cartilage cell and by enzyme inhibitors, especially the heavy metals (Table 2).

Amprino and Bélanger⁵ showed that radioactive sulfur accumulates first in the cartilage cell, then in the matrix, suggesting again the direct synthesis of chondroitin sulfate by the cartilage cell.

The content of chondroitin sulfate in articular

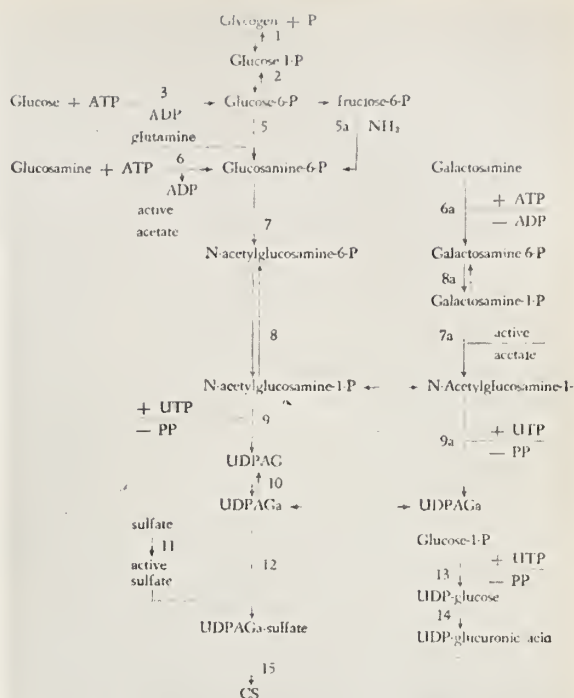


Chart 2.—Possible pathways for the biosynthesis of chondroitin sulfate.

P = phosphate
PP = pyrophosphate
ATP = adenosintriphosphate
ADP = adenosindiphosphate
UTP = uridintriphosphate
CS = chondroitin sulfate (or chondroitin sulfuric acid)

UDP = uridindiphosphate
UDPAG = uridindiphosphate-acetylglucosamine
UDPAGa = uridindiphosphate-acetyl-galactosamine

cartilage in humans has been found to diminish with advancing age and with degenerative joint disease.^{24,24a} Under normal conditions the chondroitin sulfate content is higher in weight-bearing cartilage than in the upper extremities.

Amprino also showed that the radiosulfate once incorporated in skeletal cartilage in animals is not always permanently fixed but may be resorbed and incorporated in other areas of cartilage or even in the bone salt, emphasizing the fact that there is an active turnover of chondroitin sulfate in cartilage tissue. Even in fully differentiated cartilage, renewal of chondroitin sulfate in the matrix seems to occur.

Clinical Applications

It is not within the scope of this communication to discuss in detail the clinical implications of the recent advances in knowledge of the chemical features and function of cartilage, yet certain observations may be of some value.

In trauma to joints and in arthritis the preservation of healthy articular cartilage is of prime importance. Since cartilage is not static, but is in a constant state of metabolic activity concerned with

TABLE 2.—*Characteristics of Cartilage Sulfatation Enzyme System (Boström and Männsöni)*

Agent or Process	Effect of $S^{35}O_4$ Uptake by Chondroitin Sulfate of Cartilage
Homogenization of cartilage.....	Reduced uptake by 67 to 93 per cent
Absence of O_2 in the atmosphere.....	Reduced uptake by 64 per cent
Increasing temperature.....	100 per cent loss of uptake above 47° C.
Decreasing temperature.....	50 per cent loss at 21° C.; 100 per cent loss at 0° C.
Freezing and thawing of cartilage.....	100 per cent loss of uptake after freezing and thawing
Time after removal of cartilage from body.....	No loss up to 4 hours. Marked loss in 24-48 hours; total loss after 4 days.
Incubation time.....	Uptake most rapid in first 2 hours; tapers off after 10 hours
Age of animal.....	Uptake in 1-day-old calf 100 per cent
	2-year-old cow 57 per cent
	12-year-old cow 26 per cent
Inhibitors.....	Iodoacetate—100 per cent inhibition in low concentration
	Mercurials—100 per cent inhibition in low concentration
	Arsenicals—100 per cent inhibition in low concentration
Penicillin.....	No loss at $10^{-3}M/1$ concentrations
Para-amino benzoic acid.....	No loss at $10^{-3}M/1$ concentrations
Sodium benzoate.....	No loss at $10^{-3}M/1$ concentrations
Cortisone alcohol.....	30 per cent loss at 10^{-3} and $10^{-4}M/1$ concentrations
Salicylic acid.....	30 per cent loss at 10^{-3} and $10^{-4}M/1$ concentrations

maintaining its matrix, any condition or treatment which will be detrimental to the cartilage enzyme systems or to the matrix itself may damage the cartilage and defeat the primary purpose.

The indiscriminate use of hyaluronidase about articular structures or the use of proteolytic enzymes such as trypsin for reduction of swelling and fibrosis, while these have not been thoroughly studied, could conceivably produce harmful results. The injection of mercurials into joints results in the rapid destruction of articular cartilage. The long-term effects of the use of cortisone derivatives in diarthrodial joints is not known, and one may only guess at what effect many other drugs may have on the delicate enzyme systems concerned with the formation and maintenance of cartilage matrix.

With regard to cartilaginous tumors, very little can be said positively. Schajowicz and Cabrin^{31,32} studied some of the histochemical alterations in chondromas and chondrosarcomas. The studies were very limited in scope, but they demonstrated the value of histochemical observations in understanding these neoplasms. It is hoped that further studies of the metabolism of abnormal cartilage tissue may broaden knowledge of these tumors and lead to new and effective methods of treatment.

Much has been written and much work has been done on metabolic considerations relating to congenital skeletal abnormalities. It is well established that agents that interfere with the glycolytic cycle (such as insulin, cortisone, sulfonamides and heavy metals) will produce congenital deformity in experimental animals. In humans, diabetes, vitamin deficiencies and starvation are statistically proven causes of stillbirths and of congenital deformities of the skeleton. It would appear that alterations in the embryonic circulation which are disadvantageous to the function of the cartilaginous enzyme systems during the period of chondrification and

rapid cartilage growth of the embryo (in the period between the seventh and twelfth weeks of gestation) will interfere with formation of the skeletal cartilaginous anlagen and cause permanent defects and deformities.

Of possibly more direct concern to orthopedic surgeons are the implications of these findings on the use of cartilage as a transplantable tissue.

As recently as November, 1958, Allbrook and Kirkaldy-Willis² reported the use of preserved whale cartilage and of fixed decalcified autogenous and homogenous cartilage implants in the elbow joints of monkeys after radial head resection. It is not surprising that all these cartilage grafts were resorbed. The cartilage in this experiment was obviously unsuited for survival and its resorption was certain. This does not mean that all transplanted hyalin cartilage must undergo rapid resorption and replacement.

In July of 1958, Craigmyle¹³ reported on long term cartilage grafts in rabbits. Two years after transplantation of fresh rib cartilage into subcutaneous tissue and muscle, heterogenous grafts were resorbed but autografts and homografts were found to have survived, the cartilage cells were still viable and the matrix still showed metachromasia and active S^{35} uptake—equal to that of nontransplanted fresh cartilage controls.

In cartilage transplantation one of two results is desired: Either that the transplanted cartilage will live and function, or that the host tissues will, by metaplasia, form new cartilaginous surfaces as a result of the "inductive" forces of the transplant. There is ample evidence that viable cartilage will live and grow in other than its original position. This is seen in osteochondritis dissecans, in osteochondromata and in the case of the loose bodies in arthritis and following articular cartilage trauma. The case for the induction of cartilaginous meta-

plasia is not as strong, although this is observed in fracture callus, in synovial osteochondromatosis and in rare extra-skeletal cartilaginous tumors such as that recently reported by Murphy and Wilson.²⁷

The factors responsible for cartilaginous metaplasia are poorly understood. On the other hand, the factors necessary for survival and function of cartilage grafts may now be stated with some certainty. From the information at hand, we may set down a theoretical list of rules for successful transposition of hyalin cartilage:

- a. Heterogenous cartilage will not survive.
- b. Autogenous cartilage is probably preferable to homogenous grafts.
- c. Cartilage to be transplanted must not be subjected to freezing, nor to temperatures above 45° C.
- d. Preservation of cartilage in strong antiseptic solutions is not permissible.
- e. The graft should be used within a few hours of the time of its removal from the donor site.
- f. The host tissues should be free of excessive trauma, hemorrhage and infection to permit adjustment of the graft to the host site with a minimum of alteration of chemical and cellular environment.

If the enzymes necessary for the formation of cartilage matrix are destroyed in the process of transplantation, or if the host environment is unfavorable for the function of these cellular enzyme systems, then the transplant will not survive in a healthy condition.

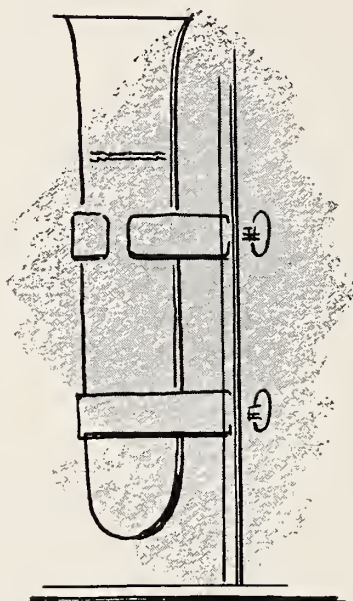
Clinical records are available of cases of cartilage grafts and transplants carried out in accordance with the theoretically derived rules listed above, and they bear out the validity of these dicta. Since 1938, J. R. Moore²⁸ of Philadelphia has employed the "cartilaginous cup arthroplasty" for ununited fractures of the neck of the femur, using fresh autogenous grafts of hyalin cartilage. Histological examination of a cartilage graft nine years after operation revealed the hyalin cartilage to be viable and to all appearances normal and basophilic. Other similar examples of completely successful transplantation of fresh autogenous hyalin cartilage are numerous. Moore still uses the cartilage cup arthroplasty after 20 years, and results in many cases are strikingly good. This appears to be an instance of the laboratory men's finally catching up with an outstanding clinician and surgeon to find belatedly that he has been doing the right thing all along.

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Heparin in Acute Myocardial Infarction

Observations Indicating the Potential Advantages of Using It As the Sole Anticoagulant in Therapy

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DURING THE PAST FEW YEARS a large body of evidence has accumulated that suggests that heparin would be superior to all oral anticoagulant drugs in the therapy of acute myocardial infarction. It appears from the literature that surgeons, more than internists and cardiologists, have been aware of the advantages of heparin. De Takats⁷ said that "the treatment of choice in acute thromboembolic disease is by heparin."

The present communication will outline the experimental findings of others supporting this point of view, will summarize the author's own data indicating improved tissue and myocardial oxygenation after injection of heparin in atherosclerotic patients, and finally will present clinical experiences with administering heparin for three to four weeks as the sole anticoagulant in therapy of acute myocardial infarction. In keeping with this concept was Nichol's²⁵ report that he and his co-workers had the clinical impression that the longer heparin was continued in therapy of myocardial infarction before oral anticoagulants were given, the better were the results.

As an anticoagulant, heparin has many advantages over prothrombin depressing drugs. It is a physiologic substance with a wide margin of safety whereas oral anticoagulants act by poisoning the liver. Heparin acts immediately and is the only anticoagulant which specifically delays clotting. There are few contraindications to its use, and it is rapidly neutralized by protamine sulfate, polybrene or whole blood. Furthermore there is ample evidence that heparin is a more efficient anticoagulant than coumarin drugs. In studies of intravascular coagulation in dogs Wessler³⁰ noted that heparin, when given so that clotting times were increased to twice those of the controls, effectively prevented clot formation whereas Dicumarol did not unless prothrombin times were dangerously depressed to 1 to 2 per cent of normal. When thromboplastin, which normally initiates clotting, is added to heparinized blood, for-

- There is a considerable body of experimental evidence that heparin is superior as an anticoagulant to any prothrombin depressing drugs. Furthermore its lipemia-clearing action affords other benefits which result from the removal of fat from the bloodstream. Important among these beneficial effects is the increased tissue and myocardial oxygen consumption which results from the injection of heparin in atherosclerotic patients.

Because of these advantages of heparin over oral anticoagulants, the use of heparin as the sole anticoagulant for three weeks in patients with severe acute myocardial infarction was evaluated as opposed to the customary therapy where heparin is given for several days and then oral anticoagulants are used. The mortality in the dicoumarin treated group was 38 per cent, as compared with 28 per cent in the patients who received only heparin for three weeks.

mation of clots is prevented more efficiently than when it is added to dicumarolized blood.²⁹ Heparin, since it is an antithrombin, prevents the cycle of thrombus propagation whereas prothrombin depressing drugs do not.²⁸ The decided increase in platelet adhesiveness that occurs in patients with myocardial and pulmonary infarction, and that predisposes to thrombosis, is promptly decreased by heparin but not by Dicumarol²³ despite adequate hypoprothrombinemia. In addition heparin is effective in patients in whom there is resistance to Dicumarol, as after the use of potassium iodide.¹⁶

Perhaps of equal or greater importance than its anticoagulant advantages is the fact that heparin rapidly clears serum lipemia and removes fat from the bloodstream, a property not possessed by any of the oral anticoagulants. It has been realized only recently that lipemia, *per se*, is harmful. It increases coagulability of the blood,¹³ platelet adhesiveness,²⁰ plasma viscosity,²⁷ and red cell aggregation and adhesion.⁶ Fibrinolysis is decidedly inhibited after a fat meal,¹⁵ as is other enzymatic activity.⁴ Serum lipemia decreased oxygen tension in the ischemic myocardium of dogs and produced anginal attacks in selected patients.¹⁹ Conversely the clearing of lipemia after heparin injection in atherosclerotic persons resulted in temporarily improved ballisto-

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Approved by the Committee on Publications of the Los Angeles County General Hospital.

TABLE 1.—Clotting Time, Arteriovenous (A-V) Oxygen Difference, and Serum Lipoproteins After Intravenous (I.V.) and Subcutaneous (S.C.) Heparin and Dicumarol

	Clotting Time (Lee-White)	A-V Oxygen Difference (Vol. Per Cent)	Standard Serum Lipoproteins* in mg. Per Cent			
			Sf 0-12	Sf 12-20	Sf 20-100	Sf 100-400
Control.....	12 min.	3.9	405	45	119	29
10 minutes after 100 mg. I.V. heparin.....	60 min.	3.8	381	38	20	0
3 hours after 100 mg. I.V. heparin.....	28 min.	6.1	349	11	0	0
12 hours after 150 mg. heparin S.C. Had 3 doses every 12 hours.....	Over 45 min.	7.8	311	36	22	0
On Dicumarol 1 week.....	Prothrombin 25 Per Cent	4.4				

*Sf = Svedberg flotation designation of density.

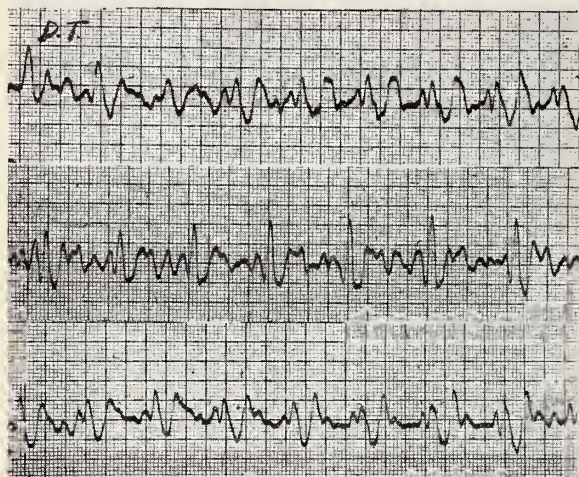


Figure 1.—Records of patient, age 48, with anginal syndrome. Upper record: Before heparin, small I and J waves, slurred deep K wave, large L wave, late downstroke pattern. Center record: 24 hours after 100 mg. of heparin intravenously, normal pattern. Lower record: 72 hours after heparin, record essentially as before heparin.

cardiographic patterns⁸ (Figure 1), in normalization of previously depressed forearm tissue oxygen uptake with concomitant electrocardiographic improvement of anoxic T waves¹² (Table 1 and Figure 2) and in a pronounced average increase (32.7 per cent) in total oxygen consumption in almost half of 46 patients under basal conditions⁹ (Table 2). Saline placebo and Dicumarol had no such effect on tissue hypoxia (Table 3). It appears likely, therefore, that the lipemia-clearing action of heparin in patients with acute infarction, in whom a low fat intake is less effective in reducing lipids than in normal subjects,²⁶ will result in benefits beyond those obtained from the use of oral anticoagulants.

Finally heparin possesses properties advantageous in the therapy of acute coronary occlusion. It inhibited experimental pulmonary edema,²¹ and decreased the incidence of irreversible hemorrhagic shock in dogs.⁵ Heparin, at therapeutic levels, increased myocardial contractility, whereas the latter was decreased by Dicumarol.¹⁴ Following myocardial infarction, erythrocyte aggregation sufficient to produce embolization of the conjunctival arterioles was

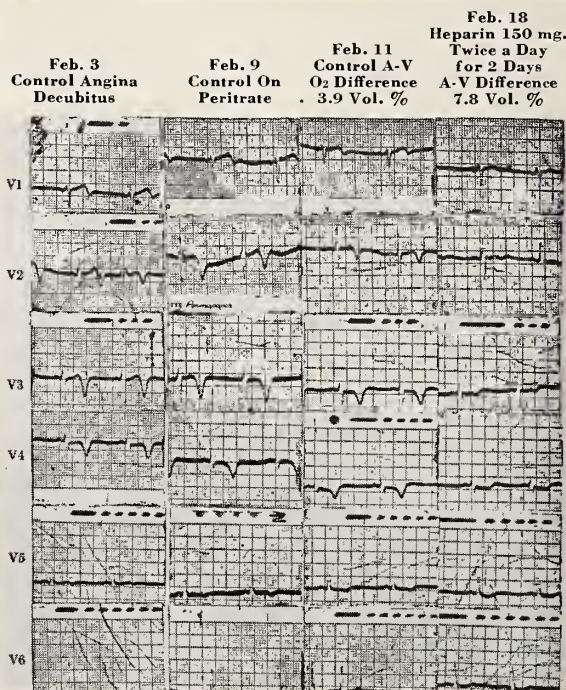


Figure 2.—Electrocardiographic changes associated with decidedly increased arteriovenous (A-V) oxygen differences.

TABLE 2.—Summary of Data in 46 Patients After 100 mg. of Heparin Intravenously

Oxygen Consumption After Heparin	Number of Individuals	Average Change	Initial Oxygen Consumption*
Increased	20	32.7%	174
Decreased	3	15.3%	164
Unchanged	23	....	205

*In ml./minute.

not prevented by adequate prothrombin depression, whereas heparinization prevented a similar phenomenon in patients with malaria.³ Heparin may also normally function in collagen fiber formation²⁴ and in the repair of the endothelial intercellular cement.²²

In view of this rather impressive array of evidence indicating the advantages of heparin therapy, its use as the sole anticoagulant for three to four weeks

in the treatment of acute infarction was suggested.¹⁰ Subsequently a comparative study of heparin alone as compared with heparin plus Dicumarol in patients with severe acute myocardial infarction was undertaken. The complete details of that investigation will be published elsewhere,^{17*} but the summation of the results obtained is shown in Table 4. Mortality in the total group that received heparin for two or three days and then dicoumarin was 38 per cent; in the patients receiving heparin alone for three weeks, the rate was 28 per cent. The difference in results between the two types of therapy was not statistically significant although it was suggestive of heparin superiority. This was substantiated by the findings in the most seriously ill patients, those with three or more complications on admission. In these subjects the mortality rates were significantly different: For the group treated entirely with heparin, 23 per cent; for those receiving heparin and dicoumarin, 58 per cent.

At this point, it may be well to discuss details of the administration of prolonged heparin therapy in actual practice, and some of the problems encountered. A 50 or 100 mg. dose should be injected intravenously when the diagnosis of infarction is made in order to attain full anticoagulant activity immediately. Subsequently, if the patient is receiving continuous intravenous therapy, 50 mg. of heparin should be given in the infusion tube every four hours. This method requires infrequent laboratory controls. If continuous intravenous drip is not being employed, subcutaneous injection is preferred. This has been made possible by the advent of highly refined concentrated aqueous heparin that is as slowly absorbed as the repository or depot material,^{1,11} yet is less expensive, less painful, and easier to administer. In nearly all patients 150 mg. of the concentrated aqueous heparin every 12 hours subcutaneously affords excellent maintenance of anticoagulation effect. In the first two to three days after infarction, slightly larger doses may be needed in a few individuals, as a state of increased coagulability often exists. Frequently, after the first three to four days a dose of 100 to 125 mg. every 12 hours suffices. Ware²⁸ advocated the use of 100 mg. subcutaneously every eight hours and expressed the belief that with this method it is unnecessary to make frequent determination of clotting time. With either technique it is advisable, however, during the first two days, to measure clotting time once daily by the Lee-White method, just before the next scheduled administration of heparin, primarily to check on the adequacy of the dose. Once a stable anticoagulant level is reached, it is not necessary to determine clotting time so often; perhaps once or twice a week is enough. The peak

*This study was performed at the Los Angeles County General Hospital.

TABLE 3.—Total Oxygen Consumption (in Milliliters per Minute) After Heparin, After Saline Placebo Intravenously, and After Oral Anticoagulant

Oxygen Consumption ml./min.						After Dicumarol 1 Week
Case	Intra- venous	Control	After Intra- venous Injection		Change* in O ₂	
			5-10 Min.	2 Hr.		
1	Heparin	79	60	97	+23%	82
	Saline	83	78	82	—	
2	Heparin	175	204	253	+45%	202
	Saline	202	184	172	—15%	
3	Heparin	247	313	316	+28%	251
	Saline	260	278	262	—	
4	Heparin	320	275	412	+29%	284
	Saline	290	280	274	—	
5	Heparin	189	224	321	+70%	210
	Saline	206	186	202	—	
6	Heparin	79	171	153	+94%	110
	Saline	94	106	127	+35%	
7	Heparin	63	97	112	+77%	78
	Saline	71	82	80	+13%	
8	Heparin	98	93	125	+27%	
	Saline	92	90	86	—	
9	Heparin	95	85	121	+26%	
	Saline	104	92	88	—	
10	Heparin	179	167	276	+54%	
	Saline	160	171	158	—	
11	Heparin	333	362	440	+32%	
	Saline	320	352	348	+9%	
12	Heparin	248	270	266	+7%	
	Saline	224	210	213	—4%	

* Compared with control period.

* Compared with control period.

TABLE 4.—Mortality Data on Patients Treated with Heparin Only, and Those Treated with Heparin for Two or Three Days and Then Dicumarol

	Heparin Only			Heparin, Then Dicumarol		
	No. of Cases	No. of Deaths	Death Rate	No. of Cases	No. of Deaths	Death Rate
Total group	100	28	28%	63	24	38%
Patients with 3 or more complications on admission	60	14	23%	19	11	58%

anticoagulant effect is obtained several hours after each injection, but the level is of little concern, as it has been our experience as well as that of the Scandinavian investigators^{2,18} that transient clotting times of one to two hours are not dangerous and neutralization measures to shorten the time are not required. The only indication for the use of protamine or polybrene when heparin is given is the occurrence of active major bleeding. Heparin given intravenously is usually neutralized by one ampule of protamine or the newer and more efficient preparation, polybrene, whereas after subcutaneous or intramuscular injection of heparin, several doses of the heparin antagonist drugs may be needed because of the prolonged absorption time of heparin by those routes. When heparin is stopped because of minor bleeding, clotting time should be determined every 6 to 12 hours and the use of heparin resumed (using a smaller dose) when the time has returned to normal. This is desirable because abrupt premature termination of therapy may predispose to thromboembolic complications, which are more hazardous

than the hemorrhagic ones. In the entire series of 100 patients in the Los Angeles County General Hospital study¹⁷ and in 36 private cases in which heparin was used, there were no hemorrhagic deaths.

Heparin is also effective when given intramuscularly in 100 mg. doses every eight hours. However, this mode of administration is more likely to be painful and to produce ecchymosis. Because of their previous experience using the older gel preparations, most nurses, unless carefully instructed, will give heparin intramuscularly, or will use the upper arm for subcutaneous injection. The latter site is inadvisable, for the subcutaneous space is limited in this area. The incidence of local pain and ecchymosis at the injection site is minimized if more concentrated aqueous heparin (200 or 400 mg. per cc.) is given very slowly in the subcutaneous fat tissue above the posterior or lateral iliac crests, using a small bore needle (No. 25 French). With this technique many patients may also be satisfactorily treated at home, using a dose of 250 to 300 mg. once daily. However, the 12-hour dosage schedule is preferred, as it affords more sustained but less pronounced anticoagulation (clotting time of 20 to 60 minutes). Recently Wessler described a simple method for the intermittent administration of drugs intravenously over prolonged periods, using an indwelling polyethylene catheter and a rubber-capped adapter.³¹ This procedure can be employed for giving frequent small doses of heparin intravenously without the necessity of repeated venipunctures. It may well be the best technique available, and certainly should be used for sensitive persons who find subcutaneous administration excessively painful.

The only major objection to the routine use of heparin for the entire period that anticoagulant therapy is necessary following thromboembolic disease is the cost. This is partially compensated for by the necessity of more frequent laboratory control tests when prothrombin depressing drugs are prescribed. It is also possible to lower the cost of heparin considerably in most hospitals. Many hospital pharmacists have retained the former charges for heparin in aqueous solution although their costs have been substantially reduced in recent years. They may be induced to lower the price to the patient if the physician explains that he would prescribe heparin for more prolonged periods, rather than oral anticoagulant drugs, if the charges for heparin were reasonable (thus increasing the profit to the pharmacy, which would make more on one vial of heparin than on dozens of tablets).

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Program

FOR

C. M. A. Annual Session

February 21*-24

LOS ANGELES

Follows page 384 of this edition



*FIRST MEETING OF HOUSE OF DELEGATES WILL BE HELD
SATURDAY, FEBRUARY 20, BEGINNING AT 7:30 P.M.

Common Eye Problems in Children

WARREN A. WILSON, M.D., Los Angeles

PEDIATRICIANS know better than anyone else that a child is as much an individual as an adult. A docile child will submit to an amazing amount of handling and instrumentation of the eyes, but often the ophthalmologist's first examination of a child is also their first meeting. Therefore he knows nothing about the temperament of the small patient, who may be in pain, is usually frightened, and distrusts a strange physician surrounded by bizarre equipment. If the confidence of the child is obtained, an adequate examination can be performed.

In the case of a penetrating injury or laceration of the globe, it is much better to put the child in a hospital and examine the injury under anesthesia, with adequate preparation for operation. Forceful retraction of the lids by either the ophthalmologist or the pediatrician may mean the difference between saving and losing the eye and therefore justifies anesthesia. If the eyelid is lacerated the hemorrhage often precludes an adequate examination of the globe, and since repair of the lid must be done under anesthesia, the eyeball can be examined then for evidence of injury.

The pediatrician in doubt about an ocular laceration should do nothing—instill no drops or ointment, nor force open the lid. Sterile pads should be lightly taped over both eyes, the child kept on his back during transfer to the hospital.

Nonpenetrating injuries of the globe may result in extravasation of blood into the chamber; if so, both eyes should be bandaged and the child should be put at absolute bed rest, with sufficient sedation, for four to five days. Corticosteroid ointment may be used, but drugs with a contracting or dilating effect on the eye are contraindicated.⁴ These precautions often prevent severe bleeding into the anterior chamber—the so-called “eight-ball” hemorrhage—which ordinarily has an onset 48 to 72 hours after injury, with acute secondary glaucoma, excruciating pain in the eye, generalized headache and nausea. This condition demands prompt treatment in hospital to prevent partial or possibly complete loss of vision.

Foreign bodies on the cornea or conjunctiva often can be removed by the pediatrician with a spud or

- Most penetrating or lacerating injuries of the eye in children justify examination under anesthesia to avoid further harm to an uncooperative patient. The pediatrician in doubt should merely apply a sterile dressing and have an ophthalmologist examine the injury in hospital. Nonpenetrating injuries may result in severe bleeding 48 to 72 hours later; this may be averted by bandaging the eyes and maintaining rest for four or five days. Removal of foreign bodies should be followed by application of antibiotic ointment and patching to prevent contamination.

Congenital stenosis of the lacrimal duct may clear spontaneously or through application of decongestants and sympathomimetic drops. More severe effects, especially infection, justify probing at six months or earlier. The operation should be done under general anesthesia, preferably in hospital.

Acute conjunctivitis is best treated by local application of antibiotics or sulfonamides only. Chronic infections may be better managed with the addition of corticosteroids, which reduce local inflammation and control bacterial reaction. Bacterial study should be done only if empirical antibiotic therapy fails. Bacterial desensitization may be helpful. The same methods are effective in blepharitis, aided by hygienic measures. Corticosteroids are most useful in allergic inflammations.

Refractive difference is difficult to test before a child can read, and apparent defects may be due to lack of cooperation. Marked inequality of the eyes may signify organic disorder. Strabismus, on the other hand, can be detected as early as 12 or 15 months and should be treated as early as possible by proper lenses, surgery, or both. Pediatricians and parents should be aware that many children appear to have strabismus because of wide epicanthi and deep-set eyes.

a cotton-tipped applicator after the instillation of tetracaine, but if the child is uncooperative or if considerable manipulation is required, the procedure should be done in hospital under anesthesia. After removal of any corneal foreign body, except the most superficially located, antibiotic ointment should be instilled and the eye patched for 24 hours. Next day the cornea should be stained with Fluorescein to ascertain that epithelialization has occurred. Some ophthalmologists feel that it is better to leave the eye uncovered because profuse tearing keeps the eye clean and washes out any micro-organisms that may have been introduced with the foreign body; but in my experience children are much less

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likely to rub an eye that is patched, and the average child's hands are far from clean most of the time.

Congenital stenosis of the lacrimal duct has been reported in as many as 6 per cent of all children,³ with half the cases clearing spontaneously in a few weeks or months. Some pediatricians believe in waiting 18 or 24 months before treating, though others would probe when the child is two months old² or even earlier.¹ If one or both eyes have constant tearing and intermittent discharge, there is no reason to wait beyond the sixth month, and in cases with chronic infection and profuse discharge the probing should be done even earlier. Although it could be done in the office, it is preferable to operate in the hospital where all possible anesthetic precautions can be taken. In some cases, not in most, probing may have to be repeated.

Probing with local or no anesthesia, and with the infant restrained in a sheet, is common but hazardous. A false passage can be made by this method, and the author has observed three cases in which dacryocystorrhinostomy was later required.

Medical treatment seems to have only limited usefulness, but one method that seems to justify more frequent trial is the application of Neosynephrine® or a similar drug to shrink nasal tissues, with the concurrent application of sympathomimetic eye drops. Because the lacrimal duct is so narrow in the very young infant, a slight reduction of tissue turgor may make a critical difference in the patency of the duct. In most cases so treated, antibiotic salves have been applied and daily massage or expression of fluids used to reduce purulence.

For the many types and degrees of acute and subacute conjunctivitis with running of the eyes or pus, the local application of antibiotics or sulfonamides usually suffices. There is no advantage in the addition of corticosteroids, which may even be dangerous in herpetic keratitis since the corneal ulceration may be stimulated to progress at an alarming rate.

For chronic types of conjunctivitis, though—particularly when the lid is involved—the addition of steroids has proved very beneficial, for it may help to control allergic reaction to bacteria and to reduce the inflammatory condition of lid margins and conjunctiva. Because conjunctival scraping for bacterial study is so unpleasant and often frightening to a child, empirical treatment is justified; but in intractable infections smear and culture studies must be made, and bacterial sensitivity tests also may be very helpful. In particularly stubborn staphylococcal infections, systemic desensitization with staphylococcus toxoid may be added to local treatment.

The usual case of blepharitis or blepharoconjunctivitis can be brought under control in a week with

a combination of antibiotic with a corticosteroid, in the dual form of drops administered hourly during the day and ointment applied at night. The mother should be instructed to rub the ointment thoroughly into the base of the cilia with the fingers or with a cotton-tipped applicator. Drops are more agreeable for daytime use, since the ointment tends to melt and run; the soluble corticosteroids are preferable to the suspensions, which leave a white residue at the inner canthus that children of school age often resent. A valuable adjunct in particularly stubborn cases is a regimen of eye hygiene that includes washing the face morning and night with hexachlorophene soap, but this is unsuitable for younger children because the active ingredient, irritating to the conjunctiva and possibly harmful to the cornea must be thoroughly rinsed before the eyes are opened.

For allergic conjunctivitis and the "itching" of the eyes associated with vasomotor rhinitis, corticosteroid solutions are most useful. When a secondary infection is present, the combination with an antibiotic may be indicated. A similar regimen works well in vernal conjunctivitis. In California, which is subtropical and is limited to a dry and a wet season, a concentrated corticosteroid solution or suspension given every hour until symptoms are brought under control is the best treatment devised to date for this annoying condition. After a few days, the frequency of installation can be decreased. During the wet season, when symptoms are much reduced, the milder corticosteroid solutions combined with sympathomimetic drugs and antihistaminics are usually adequate. Because of the rather profuse mucous discharge associated with vernal conjunctivitis, most patients are more comfortable with solutions than with ointments.

The ophthalmologist is often asked for an opinion about preschool vision tests and about the proper time for complete refraction testing. These questions are somewhat related.

About four and a half years seems the ideal age for visual testing; earlier, the child's cooperation and the accuracy of response is doubtful. If at this age his reaction is unsatisfactory, another attempt should be made in three months. For the busy pediatrician, the "E" chart based on the Snellen notation is by far the most satisfactory test device for children under seven years of age, since most children educated by modern methods do not know the alphabet until the second grade. This chart, hung in a hall or treatment room with a range of about 20 feet and reasonable overhead lighting, is quite sufficiently accurate. At the age of four and a half years, 20/40 vision is satisfactory; at five or six years, 20/30 is normal, and 20/20 may not be

attained before seven or eight. An apparent difference of one line between the eyes may be due simply to lack of cooperation and ordinarily is not significant unless other symptoms are present; a difference of two lines usually justifies further investigation.

Decided inequality of the eyes (e.g., 20/30 vision in one and 20/200 in the other) demands immediate attention, for it may signify an intraocular defect or, more commonly, dimness due to disuse (amblyopia ex anopsia). The latter condition is often associated with strabismus, but other causes are probably more common than is realized; in many cases function can be restored if occlusion of the better eye is instituted before the age of six years. If the refractive error is pronounced, spectacles may be needed in addition to patching. Patching should be continued, with monthly checks, for three months or longer.

Refraction study may be necessary when the Snellen test does not rule out borderline myopia or when visual defects are otherwise evidenced.

Since a child's accommodative ability is so great, spectacles are not usually prescribed except for severe hyperopia, astigmatism or myopia. In these cases, not only clarity of vision, but ocular comfort may be obtained by corrective lenses. If the child is very active or particularly interested in sports, glasses can be dispensed with after school or during play hours. Case-hardened lenses, such as safety glasses used in industry, have proved very satisfactory for children. For the past few years, plastic lenses have been available. They are light in weight, unbreakable, and therefore reassuring to parents. The disadvantage is that they are easily scratched.

Glasses are not prescribed for low degrees of myopia if the child is doing satisfactory work in school and has no visual complaints. The parents should be advised that glasses will undoubtedly be needed later, by which time they are psychologically better prepared. An adequate explanation with a few simple diagrams often reassures parents. Because of many articles in lay periodicals, people have become fearful of such terms as "progressive myopia." Once it is understood that all acquired myopia is "progressive" and that it does not in itself lead to blindness, cooperation with the physician is infinitely better.

When to refer a child with strabismus is a problem facing the pediatrician almost daily. As with most medical conditions, the earlier that treatment is begun, the better is the chance for cure; in the first year of life, however, strabismus does not demand attention by an ophthalmologist unless the parents are unduly apprehensive and the pediatrician needs help in reassuring them. Most strabismus,

convergent or divergent, develops in the second, third or fourth year of life. Even at 12 to 15 months the angle of squint can be measured and refraction adequately tested.

Strabismus is basically bilateral; when a child with previously normal alignment is noted to have deviation, fundusoscopic examination should be done promptly, since the turning may be the first symptom of intraocular tumor or other eye disease.

It is doubtful that anyone "outgrows" strabismus, though many persons believe they have done so. They probably had an appearance of strabismus which is quite common in children, especially those with wide epicanthi and deep-set eyes. When a child has this conformation and the pediatrician is in doubt, the ophthalmologist may help to reassure both him and the parents that the case is one of pseudostrabismus.

Most true strabismus can be treated only by correct use of lenses, by surgery, or, in some cases, by a combination of these methods. Occlusion and orthoptics are important adjuncts. Especially in convergence, the squinting eye is often amblyopic, as can be readily demonstrated in older children by acuity tests or evidenced in younger ones by poor fixation of the squinting eye on screening tests. Before operation is possible, the fixing eye must be constantly occluded until good fixation has developed in the other. This process may require two weeks to several months, and in older children it can be followed through periodic checks with the Snellen chart.

Mere alignment of the eyes does not insure binocular vision; orthoptics, on the other hand, is most valuable in teaching fusion but cannot by itself produce alignment. Before the age of four and a half years children generally do not cooperate enough to make orthoptics worthwhile, but from then until the age of seven the method can be most beneficial.

In older children with strabismus, even though one eye may be incurably amblyopic and fusion impossible, operation may be justified for cosmetic reasons alone, for straightening of the eyes can relieve the emotional burden on both patient and parent.

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Alcohol and Driving

Application of a Definition in a Way to Deter Offenders

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THAT ALCOHOL is an important factor among causes of traffic accidents has become increasingly apparent and numerous studies of the relative importance of alcohol and of measures to control it have been carried out. Different investigations have yielded widely divergent results with regard to the proportion of mishaps attributable to alcohol. No doubt the divergence is owing at least in part to the fact that it is indeed not easy to evaluate the information to be obtained from accident reports in this regard. In accidents of certain types, notably fatal accidents in which only one vehicle is involved, the percentage of drivers adjudged to be intoxicated on the basis of analysis of body fluids for alcohol is overwhelming. Although it is not obtainable, information about comparable blood alcohol concentrations in drivers on the road at the same time and place who were not involved in accidents would be of utmost importance, for conclusions cannot be drawn without study of the incidence of accidents involving drinking drivers in comparison with a similar group of nondrinking drivers under the same conditions of traffic hazard. Just how great this difference would be is still problematical, but that it is present to some degree is uncontroversial.

Traffic accidents are among the major causes of death in the United States, and until quite recently the number of deaths so caused had been increasing year by year. However, the number of deaths per passenger mile has decreased—this in spite of the greater congestion of traffic and increased speeds of motor vehicle operation. Since the reason for this must lie in better cars, better roads and better driving, anything that will improve driving standards may be expected to lessen the number of deaths per passenger mile. And there can be no question but that preventing persons under the effect of alcohol, whether pedestrians or drivers, from using public roads would improve accident statistics. It may be argued that there are other factors of equal or greater importance in this regard, but let us here concern ourselves only with alcohol.

Quite apart from the question of the legal rights

• Increasing speed and congestion of vehicular traffic have made the effect of alcohol on the drivers of motor vehicles a matter of growing concern. It is not possible, using the definition of drunken driving that is now prevalent in California, to establish a rule, based on a stipulated minimum concentration of blood alcohol, that will serve to indict most of the guilty yet free all the innocent. If, instead of comparing the suspected driver with the hypothetical "ordinarily prudent and cautious person" as is now done in California, we accept the more widely prevalent definition of driving under the influence which defines the offense as any appreciable diminution in skill ascribable to alcohol, then a blood alcohol concentration of 150 mg. per 100 cc. or even 100 mg. per 100 cc., could suffice for conviction.

For the rule as to alcohol content of the blood to be an effective deterrent of drunken driving, all drivers—not just those involved in accidents or observed to drive erratically—would have to be subject to testing.

of the individual, it is obvious that the simplest way of meeting this problem would be the prohibition of the taking of alcohol by all users of the road. Such a legal prohibition would be theoretically easy of enforcement, since modern methods of alcohol analysis would give an unequivocal answer to whether or not a suspect had consumed alcohol. Current legislation in a majority of states of the Union has tended in this direction, with an amelioration of the prohibition in the direction of setting up fixed values of alcohol concentration as criteria of whether or not the individual is "under the influence" of alcohol. The figure generally chosen has been 150 mg. per 100 cc. of blood. Persons with alcohol concentrations above that value are presumed to be under the influence. In the zone from 50 to 150 mg. per 100 cc., there is no presumption on the basis of the chemical evidence as to whether or not the individual is under the influence, while with a concentration less than 50 mg. per 100 cc. he is presumed not to be under the influence. All experimental work, using actual driving tests or tests known to correlate with driving ability, has shown that all persons tested, regardless of degree of tolerance to alcohol, have an appreciable reduction in driving skill at an alcohol concentration of

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100 mg. per 100 cc. of blood. Setting the actual level at 150 mg. then can be considered as a measure to allow for variability in analytic method which under certain conditions may approach this degree. Indeed, there is agitation to reduce the level to 100 mg. per 100 cc., and from some quarters even to 50 mg. Since it is the absolute prohibition of all alcohol that could be expected to make the most improvement in accident statistics, there can hardly be objection on theoretical grounds to this reduction of the inculpatory level of alcohol concentration. But such precision of definition does bring up certain practical considerations.

The objective of any legislation in this field should be, primarily, to prevent persons who have taken alcohol in any amount that will reduce their ability to drive from operating a motor vehicle; punishment of persons guilty of overt offense should be only a secondary consideration based on surmise that certainty of conviction for an offense acts as a deterrent. Whether or not a driver has drunk enough alcohol to elevate the alcohol content of his blood to the culpable level can be easily determined by a simple and accurate chemical test. Thus from the standpoint of enforcement and punishment of the offender who comes to the attention of the police, the problem is simplified if legislation is enacted that defines driving "under the influence" in terms tantamount to those of the Arizona definition—that is, *any appreciable reduction of ability to drive brought about by alcohol*. This in effect prohibits driving by anyone with a concentration of alcohol in the blood which has been shown in all individuals to reduce driving ability to an appreciable degree.

In order to appraise how effective such legislation will be as a deterrent to drinking and driving we must, however, look further into the matter. A quite obvious but important factor is that, to be prosecuted, a miscreant must come to the attention of the police. This means that he must be involved in an accident or be observed to drive in so erratic a manner as to be stopped for questioning. Now, in order for any measure to act as an effective deterrent to drinking and driving, it is essential that the individual recognize the jeopardy in which he places himself when he takes the wheel after drinking enough to raise the alcohol concentration in his blood to the culpable level. So long as he knows that his sobriety is not likely to be questioned unless he gets into an accident or is observed to drive erratically, the deterrent effect will be small, for no one, drunk or sober, ventures onto the highway with the idea he is going to be involved in an accident or will drive in such a manner as to come to the attention of the police. Indeed, the effect of alcohol is to minimize these possibilities in the mind of the consumer.

If, on the other hand, the individual knew that it was an offense to drive with more than a certain concentration of alcohol, and that moreover he was liable to be stopped at any time by properly constituted authority and a test made to determine his alcohol concentration, the deterrent effect would probably be very great. Although no data are available on this point, the fact that on the few occasions that such spot checks have been made, during times of greatest hazard at the holiday season, very few persons were found with alcohol content in the blood of more than 150 mg. per 100 cc., would indicate that, with the possibility of a road block or spot check confronting him, the drinker stays home or takes a taxi.

Objections to such police methods will immediately be raised on the grounds of undue infringement of personal liberty. One might equally question the propriety of enforced checking of brakes and lights, or even weight checks on trucks for overloading, all of which are well accepted police practice. A simple and entirely untraumatic test of expired breath, subject to no objection on the basis of invasion of the individual's privacy, could serve as a screening procedure, with positive findings by this means justifying a reasonable suspicion of intoxication which would justify arrest and a more precise confirmatory test. It seems likely that an informed public, after an effective educational campaign, knowing of the possibility of being subjected to such "inspection" when driving, would elect to stay off the road after imbibing—and this of course is the primary objective of legislation to curb drunken driving.

Just how low the culpable level of alcohol concentration in the blood could be set and be acceptable to the majority of the voting public is difficult to say. The level of 150 mg. per 100 cc. that is now advocated as the level of culpability would certainly produce some degree of impairment of driving ability in any person, yet provide some leeway to take care of analytical variation. Since the least amount of alcoholic beverage required to produce such a level is in the vicinity of six bottles of beer or six mixed drinks, public sentiment should not be outraged by prohibition of consumption of such an amount of liquor when driving. No doubt, adoption of a level of 50 mg. per 100 cc. would be preferable from the standpoint of reducing accidents, but it is very questionable whether this concentration will cause an appreciable reduction in driving ability in all persons; and in addition the public reception of a law forbidding driving after consumption of two bottles of beer might be unfavorable.

A prerequisite to any of the foregoing measures is the adoption of a definition of driving under the influence based on the Arizona definition. The

essence of this definition is that the standard of driving ability is that of the particular individual free of alcohol, and that an offense occurs when there is any appreciable reduction of this ability brought about by alcohol. Thus a person if originally an unusually skilled driver may still be able to drive as well as would be required for granting an operator's permit and nevertheless be "under the influence." Arbitrary speed limits, which are the same for the marginal as for the skilled driver, are regulations of a comparable kind, yet are widely accepted as necessary in controlling road traffic.

In states other than Arizona—and California may be taken as an example—the definition employed as a guiding principle is quite different. Here the decisions on which present interpretation of the law is based stated that for an individual to be considered under the influence of alcohol he must be so affected as to make him unable to drive in the manner of an ordinarily prudent and cautious person who has not ingested alcohol. Here the individual is not compared with himself when free of alcohol, but with a hypothetical person whose only known attributes are set forth as ordinary prudence and caution. Since it is to be presumed that an operator's permit would not be granted anyone not believed to possess these attributes, the standard of driving set up may be presumed to be that of the individual of least driving ability able to qualify for a driver's license. There are no adequate data for conclusion as to how much alcohol in the blood would make *anyone*, regardless of tolerance or driving skill, unfit to drive, although for some persons the tolerance is known to be above 150 mg. per 100 cc. Thus in states which define the offense as does California, the demonstration of a certain concentration of alcohol, although of value in establishing the minimum amount of alcohol consumed, cannot of itself prove that the individual was under the influence as defined.

The definition of the California type, requiring of an individual only that degree of ability that qualifies for the activity in question, is familiar to physicians in regard to the offense of professional malpractice: The physician is required only to exercise that degree of skill which is possessed by the average practitioner in his community. From

the standpoint of equity and justice this would seem a good principle, and is hard to assail from that standpoint. When applied to the offense of driving under the influence of alcohol, however, it makes successful prosecution difficult, since not enough information is available to establish the alcohol concentration at which all individuals will have their driving ability reduced below that of the "ordinarily prudent and cautious person," and indeed such evidence as is available indicates that this level would be so high as to make chemical tests essentially valueless except in establishing the amount of alcohol consumed.

Much controversy has attended the attempt, in California, to apply the 150 mg. per 100 cc. standard (which is appropriate for the Arizona definition) to the definition established by usage in California. To accomplish this, it is necessary to assume that no person, regardless of driving skill and tolerance to alcohol, if he has a blood alcohol content of 150 mg. per 100 cc. is able to drive in the manner of the "ordinarily prudent and cautious person." Since there is no valid evidence to be found in the literature to support this assumption, the presence of such a concentration of alcohol cannot, in itself, constitute proof of "driving under the influence" in California.

Whether or not the definition of the offense of driving under the influence of alcohol should be changed to conform to that typified by Arizona is a matter for the State Legislature. Attempts to obtain such legislation have failed in the past, although it seems to the author that the seriousness of the problem of alcohol and driving under present conditions of high speed and congested traffic warrants such a change. If such legislation is forthcoming, however, its greatest benefit, and perhaps the only justification for the infringement on personal liberty that it entails, lies in its deterrent effect on driving after drinking. It is the author's opinion that this deterrent can only be obtained to an effective degree if not only the individual involved in an accident, but all users of the highway, be subject to evaluation of blood alcohol concentration. Practical and efficient methods to accomplish this are at hand; what remains to be accomplished is the requisite legislation.

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Prostatectomy

A Survey of 2,000 Cases

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AS MAN'S LONGEVITY INCREASES, the problems of prostatic obstruction grow. The problems are of two orders—an increasing number of cases and, oftentimes, a decision as to the best method of treatment.

Neither to advance any new methods of approach nor to advocate in particular any of the established procedures, the purpose of this communication is to present a series of consecutive cases of prostatic operation done at one institution (Southern Pacific General Hospital, San Francisco) over a period of approximately ten years, and to draw some very generalized conclusions from the observations.

The series embraces 2,000 consecutive cases of prostatectomy performed at the Southern Pacific General Hospital from 1947 to 1957, and the procedures used were as follows:

Procedure	No. of Cases
Transurethral resection	1,327
Suprapubic prostatectomy	614
Perineal prostatectomy	43
Retropubic prostatectomy	16

Carcinoma

Suspected carcinoma of the prostate was treated surgically in 139 cases, transurethral resection having been used in 128 cases and radical perineal prostatectomy in 11. (One hundred thirty-nine was not the total number of cases of suspected carcinoma, or even the total proven by needle biopsy, but merely the number in which surgical intervention was indicated.) Of 1,861 cases in which the preoperative diagnosis was benign prostatic hypertrophy, 56 (3 per cent) were later reported by the pathologist as having some malignant changes. Thirty-six of the 56 patients had been treated by transurethral resection, 17 by suprapubic enucleation and three by a simple perineal enucleation.

Mortality

There were 38 deaths in this series, a mortality rate of 1.9 per cent. Mortality data associated with each of the procedures in the present series are compared with data reported recently by other investigators in Table 1.

The average age of all the patients in the series

• A statistical analysis was made of 2,000 consecutive cases in which prostatic operations were done in the period 1947-1957 at the Southern Pacific General Hospital. The operations included transurethral resections as well as perineal, retropubic and suprapubic prostatectomy.

The mortality rates were lowest for transurethral resection and highest for retropubic prostatectomy. Coronary artery disease and pulmonary embolism were the chief causes of death. It was generally felt that preliminary partial vasectomy previous to transurethral resection added very little to successful convalescence. Although distilled water was used routinely for irrigation during transurethral resection, there was no incidence of lower nephron nephrosis.

The incidence of recurrence of prostatic obstruction was highest by far after transurethral resection.

was 62.6 years; the youngest was 29 and the oldest 94. The average age of the 38 who died was 66.3 years. Two were between 50 and 55, two 55-60, six 60-65, ten 65-70, five 70-75, six 75-80, five 80-85, two 85-90. The causes of death were:

	No. of Cases
Cardiac (thrombosis or failure)	12
Pulmonary embolism	6
Hemorrhage	4
Cerebrovascular accident	4
Pneumonia	3
Perforated bladder	2
Lower nephron nephrosis (after perineal prostatectomy)	2
Metastatic disease with death shortly after operation	2
Uremia	1
Mesenteric thrombosis	1
Septicemia	1

In 1950 Mathé⁷ reported on a similar series of operations done at Southern Pacific General Hospital in the 20 years preceding the present series. Since the mortality rates were not readily comparable with those shown in Table 1, owing to differences in categories used in reporting, they are shown separately in Table 2.

Morbidity

The complications that occurred in the present series are listed in Table 3. Record keeping at the time of this series was such that information could

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TABLE 1.—Mortality Rates Associated with Various Prostatectomy Procedures

Procedure	No. of Patients	Mortality Rate (Per Cent)	Reported by
Transurethral resection.....	1,327.....	1.8	Authors in present series
	1,022.....	3.1	Taylor and Kaylor ⁸
	1,000.....	1.8	R. W. Barnes et al. ¹
Suprapubic prostatectomy.....	614.....	1.62.....	Authors in present series
	{ 515.....	7.6 (1937-1945)	MacDonald ⁶
	{ 535.....	2.0 (1947-1951)	
	150.....	2.7	Taylor and Kaylor ⁸
Retropubic prostatectomy.....	16.....	6.25.....	Authors in present series
	678.....	1.6	Lich ⁵
	1,000.....	2.4	Campbell and Blue ²
	150.....	0.7	Taylor and Kaylor ⁸
Perineal prostatectomy.....	43.....	4.65.....	Authors in present series
	41.....	2.0	Taylor and Kaylor ⁸

TABLE 2.—Mortality Rate Associated with Prostatic Operations at Southern Pacific General Hospital in 20-Year Period, 1929-1948

Year	Prostatectomy		Transurethral Resection		Combined (Per Cent)
	No. Cases	Mortality Rate (Per Cent)	No. Cases	Mortality Rate (Per Cent)	
1929 to 1935	162	11.7	72	1.3	8.5
1936 to 1946	301	5.3	465	2.8	3.6
1946 to 1948	123	2.4	354	1.1	1.4

not be obtained on complications beyond the immediate postoperative period.

Hemorrhage was considered a complication if the patient had to be returned to surgery for hemostasis or evacuation of clots, or if he received one or more transfusions of whole blood postoperatively. While the number of such cases in the series may seem quite high, it may be tempered by the knowledge that it was not the routine practice at this hospital to give transfusions either during or after operation unless the patient was anemic preoperatively or loss of blood during operation was appreciable (usually if estimated blood loss was over 400 cc.).

Incontinence was listed as a complication if it was even mentioned on the patient's chart. Thus the degree varied from mild, stress incontinence to complete loss of sphincter control.

Because choice between open prostatectomy and the transurethral operation is controversial, data on the occurrence of vasitis and epididymitis with the various procedures was listed separately to help cast light on the subject (Table 4). Bilateral vasectomy was routinely carried out as an adjunct to all open prostatectomies. However, where the transurethral operation was employed, only 740 of the 1,327 patients were subjected to vasectomy.

While vasitis is admittedly not a serious complication, the incidence of it as compared with the incidence of epididymitis was listed. Vasitis was manifested by an inflammatory reaction, at or above the site of excision, of such degree that mention was

TABLE 3.—Incidence of Complications in Series of 2,000 Cases of Prostatectomy

	No. of Cases
Hemorrhage (primary and secondary).....	121
Transurethral resection	80
Suprapubic	39
Perineal	2
Thrombophlebitis	52
Incontinence	30
Transurethral resection	18
Suprapubic	9
Perineal	3
Urethral stricture	21
Cardiac decompensation	19
Bladder neck contracture.....	16
Pneumonia	12
Perforation of prostatic capsule and/or bladder.....	4
Wound infection	3
Fever of unknown origin.....	2
Osteitis pubis	2
Perineal fistula	1
Peritonitis	1

made in the patient's record of fever, pain or induration.

The incidence of recurrence of obstruction or the need for secondary procedures associated with each kind of operation is shown in Table 5.

DISCUSSION

In this series of 2,000 cases of prostatectomy, removal was done transurethrally in the majority. While no mention was made of the size or weight of the gland involved, it is recognized that the larger

TABLE 4.—Incidence of Epididymitis and Vaginitis Associated with Various Operative Procedures

Surgery	No. of Cases	No. Cases of Vaginitis	No. Cases of Epididymitis
Transurethral resection with vasectomy	740	9	4
Transurethral resection without vasectomy	587	0	19
Open prostatectomy all with vasectomy	673	7	4
Total	2,000	16	27

TABLE 5.—Incidence of Recurrence of Obstruction Associated with Various Prostatic Operations

Kind of Operation	No. of Recurrences Within		
	0 to 5 Years	5 to 10 Years	10 to 20 Years
Transurethral resection	109	28	16
Suprapubic prostatectomy	4	8	1
Perineal prostatectomy	0	0	0
Retropubic prostatectomy	0	0	0

glands were removed by open prostatectomy at this institution. The suprapubic approach, a modified Freyer³ procedure as discussed by Gibson⁴ in 1954, has been the method most often employed.

Mention should also be made of the fact that plain distilled water was the only irrigating solution employed during transurethral resections. Intravascular absorption and hemolysis were not a problem. There

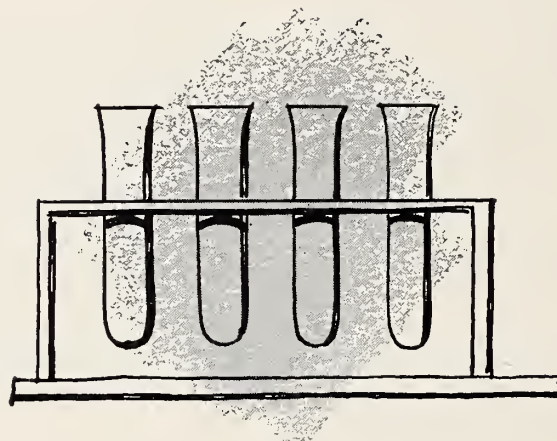
were no cases of lower nephron nephrosis following any of the 1,326 cases of transurethral resection.

Although completely accurate data on this particular factor are not available, antibiotics were liberally used after operation in the early part of this ten-year study and the use of these agents prophylactically has been studiously avoided in more recent years, yet there was no real difference reflected in either the mortality or morbidity rates.

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Atopic Dermatitis Due to Sensitivity to Pollen

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SINCE 1930 observers have reported instances of atopic dermatitis due to airborne allergens.* Rowe reported on the disease in 30 patients in 1936¹⁰ and made another report in 1946.⁹ In the more recent report dermatitis of the hands was the major allergic manifestation. The present communication is a report of observations from the diagnostic and therapeutic standpoints in 100 patients, 64 females and 36 males, studied within the past 12 years whose sole or major manifestation of allergy was atopic dermatitis due to pollen sensitivity. In all cases good or excellent results were obtained with desensitization therapy.

Fifty-eight of the patients were in the age bracket 15 to 50 years at the time of onset; 18 were under 15 years of age, the youngest being six months old, and 24 patients were over 50, the eldest being 78.

A history of past or present symptoms of allergic reaction, in addition to the dermatitis for which they sought treatment, was obtained in 57 patients. Seasonal hay fever in 31 patients was most frequently noted. The fact that 43 patients gave no history of any other allergic manifestation emphasized that in some persons the skin may be the only "shock tissue" of allergic response.

The extremities were the most frequently involved areas—sometimes alone, sometimes with other areas of the body besides. The eruption was generalized in 32 patients; confined to the head and neck alone in one; the ears in three; the eyes in two; the face in 12; the trunk in three; and the hands in 16 (Table 2). Localization or distribution of the eruption gave no clue as to the diagnosis of sensitivity to pollen.

The character of the eruption varied widely: Some minute and pin-point lesions, some vesicular and at times vesiculopustular, either discrete or massed in patches or large areas of erythema, edema, dryness, oozing, and pruritus—all these manifestations were observed, some of them in few cases, some in many. The intensity of eruption frequently varied from week to week.

In some cases in this series the atopic dermatitis was purely seasonal, in some perennial with seasonal exacerbations, and in others perennial without strik-

• Observation of 100 patients with atopic dermatitis due to hypersensitivity to pollen over a period of 12 years emphasized certain important diagnostic and therapeutic features. The incidence was higher in females than in males and higher in middle and old age than in the earlier years.

Pollen dermatitis may be the sole or major manifestation of allergy; 43 patients gave no history of other allergic symptoms. It may involve any or all areas of the body. The site or the distribution of lesions or the nature of the lesions gave no clue as to the diagnosis of pollen sensitivity.

The character of the eruption varied widely from patient to patient and in given patients from week to week at times.

Atopic dermatitis due to pollen sensitivity may be purely seasonal, perennial with seasonal exacerbations or perennial without seasonal variation.

Reactions to skin testing with pollens suspected as allergens may be positive, equivocal or negative. In 58 patients there were positive correlative skin reactions to pollens.

The diagnosis of atopic dermatitis due to pollen sensitivity, and the composition of the desensitizing antigen or antigens, must be based primarily on the clinical history and the area of residence.

Most patients could tolerate only very weak dilutions at the beginning of desensitization therapy. Strong dilutions caused exacerbation of the dermatitis.

Good or excellent results were obtained with perennial pollen desensitization therapy administered over long periods. In 13 patients good results took four to eight years of desensitization therapy. Fifty required less than two years. Tolerance of the patient for a given dose of antigen should determine the maximum dilution used in therapy.

TABLE 1.—Personal Past and Present History of Allergic Manifestations in 100 Patients

	No. of Patients
Seasonal hay fever.....	31
Perennial allergic rhinitis.....	4
Bronchial asthma—Seasonal	4
Bronchial asthma—Nonseasonal	3
Urticaria	10
Allergic headache	1
Gastrointestinal allergy	4
No other allergic symptoms.....	43

100

Chairman's Address: Presented before the Section on Allergy at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

*References 2, 4, 5, 6, 7, 9, 11, 12, 13, 15.

ing seasonal exacerbation (Table 3). Ninety of the 100 patients resided in the temperate areas of north central California where, regardless of season, the air is never completely pollen-free. *Poa annua*, cut flower, cedar, eucalyptus and acacia pollens are present in the air during the late fall and early winter months, thus accounting for the perennial character of the eruption in many persons.

As in all clinically manifest allergy, the sole evidence of pollen sensitivity may be obtained only from careful analysis of the patient's history.⁸ In cases in which allergic reaction to pollens is perennial, seasonal exacerbations, if they occur, may not be apparent to the patient at first, and may become apparent to a clinician only after a year or more of observation. The season of onset and the month of the first visit of the patient to the physician frequently offer important diagnostic clues.

Results of skin testing with important pollens and other inhalants to which patients were exposed and with important ingested foods are shown in Table 4. Tests were performed by the scratch, puncture or intradermal methods. Positive reactions to seasonal pollens considered clinically important were elicited in 58 patients and to pollens considered to be of no clinical importance in 18. Twenty-four patients were completely nonreagenic, having no reaction to any of the allergens used in the tests. Scratch or puncture tests with large numbers of seasonal pollens occasionally produced severe exacerbations of the eruption. Hence, in cases in which a high degree of sensitization is suspected, scratch or puncture tests should be limited and extremely weak dilutions of antigens should be employed for intradermal testing.

Because reactions to offending pollens may be strongly or moderately positive, or equivocal, or negative and because skin tests when positive may represent past, present, or potential allergic sensitivity, analysis of the history becomes the ultimate criterion for establishing the diagnosis of pollen sensitivity and for appropriate desensitization therapy.

Frequently patients with pollen dermatitis have a high degree of sensitization, necessitating the use of extremely weak dilutions of desensitizing antigen for institution of therapy and frequently for maintenance therapy as well. In this series 67 patients could tolerate initial dilutions no stronger than of 1:5 billion. Thirty-three patients had tolerance for dilutions between 1:500 million and 1:50,000. Antigen dilutions stronger than 1:50,000 were not given initially in any patient.

The strength of the final desensitizing antigen used was 1:5 million billion in one patient, between 1:50 thousand billion and 1:5 billion in six patients, between 1:500 million and 1:50,000 in 27 patients, between 1:5,000 and 1:500 in 16 and 1:50 in 50 patients.

TABLE 2.—Areas Involved in Allergic Dermatitis in 100 Cases

	Alone	With Other Areas
Head and neck	1	5
Ears	3	3
Eyes	2	10
Face	12	21
Upper extremities	6	4
Lower extremities	2	2
All extremities	10	60
Trunk	3	4
Hands alone	16	
Generalized	32	

TABLE 3.—Seasonal Incidence of Dermatitis

	No. of Patients
Spring only	17
Fall only	5
Spring and fall.....	26
Perennial	17
Perennial with spring exaggeration.....	17
Perennial with fall exaggeration.....	4
Perennial with spring and fall exaggeration.....	14
	100

TABLE 4.—Results of Skin Tests (Scratch or Puncture Method)

	No. of Patients Reacting		
	Negative	1 to 2 Plus	3 Plus or Greater
Tree pollens	50	40	9
Spring grass pollens.....	29	34	33
Fall pollens	39	37	16
Flower pollens	64	32	3
Miscellaneous inhalants	56	35	7
Foods	68	26	3
Completely negative skin tests..		24	
Positive reactions to unrelated allergens		18	

The initial desensitizing dose was determined by intradermal serial dilution titration or by the ability of the patient to tolerate a given dose.

In nonreacting patients, composition of the antigen was based on the clinical history and the area of residence. In patients with positive skin reactions antigen composition was determined primarily through careful analysis of the history. Frequently in this group, however, aid was obtained from analysis of skin test results.

Good or excellent therapeutic results were obtained in most patients who had perennial pollen sensitivity by administering desensitization over relatively long periods at intervals of three to seven days. Fifty patients required two years of treatment or less, 37 two to four years and 13 four to eight years (Table 5). Premature cessation of therapy in many patients resulted in exacerbation of the dermatitis. It became apparent that failure to effect

TABLE 5.—Perennial Pollen Desensitization—Duration of Therapy

	No. of Patients
3 to 6 months.....	2
6 to 12 months	21
1 to 2 years.....	27
2 to 3 years.....	24
3 to 4 years.....	13
4 to 6 years.....	8
6 to 8 years.....	5
Injections of antigen given every 3 to 7 days	

partial or complete remission within a period of one or even two years should not discourage the continuance of treatment. Several patients who noted no significant improvement during the first one or two years of therapy, had the desired relief later.

Clinical results were excellent in 79 cases and good in 21. (*Excellent* denoted complete disappearance of the eruption; *good* was used when the eruption almost completely disappeared or was absent except for minor recurrences for one to four weeks each year.)

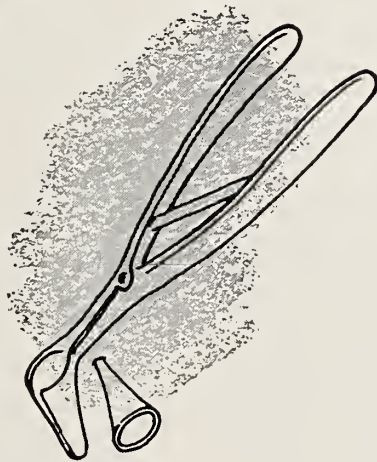
That tolerance of strong antigens is not necessary for a good or excellent clinical result was apparent. Seven patients were able to tolerate antigens no stronger than 1:5 billion; 27 no stronger than 1:50,000; and 16 no stronger than 1:500. Fifty patients tolerated dilutions of 1:50. Antigen strength was steadily increased according to patient tolerance. Exacerbation of dermatitis frequently necessitated reduction in dosage both in and out of the pollen seasons. Frequently significant dosage reduction was necessary during the pollen season. The efficacy of small doses of pollen, utilizing extremely

weak antigen dilutions as previously pointed out by others,^{1,3,9,14} was again emphasized by the experience in this series of patients with pollen dermatitis.

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How the Medical Profession Looks to the Layman

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Editor's Note: The communication herewith already has had a considerable audience. It was first delivered in virtually its present form at a meeting of the California Society of Internal Medicine. Later, not substantially changed, it was given by the author before a meeting of executives of the California Medical Association and component county societies.

Its presentation here reflects no editorial opinion either of advocacy or disagreement, but rather a belief that a willingness to look at ourselves from the point of view of respected observers outside our profession is a quite necessary part of public relations.

I WAS ASKED to talk to you about the public's attitude toward physicians in particular and organized medicine in general—as that attitude is assessed by one unquestionably interested and supposedly informed layman. Let me make my own position clear.

1. First of all, I'm far from being an expert on the subject of medicine; this business of covering medical stories constitutes constant learning, a never-ceasing postgraduate course which I find both challenging and satisfactory. However, I think I can say that in 25 years of covering everything from murder to medicine for newspapers, news magazines and press associations I have gained the status of expert in assessing what my fellow laymen think and how they react to various stimuli—and also what their aspirations are.

2. Please understand that in most of what I say here I am advocating nothing. I am reporting, interpreting the beliefs and reactions of laymen as they regard medicine, and what I think these beliefs and reactions portend for the future of medicine.

3. I'm sure that much of what I'll say will not come as news to most of you. And yet, to coin a cliché, many of us too close to our own professions cannot see the woods for the trees—and it often takes an outsider to bring into focus even the most obvious forests.

I was told that my talk here would not be considered a success unless I made most of you mad. I'm not sure I like this idea, because—to steal a quotation from my good friend and competitor, Milt Silverman—some of my best friends are doctors.

A talk made before the annual meeting of the California Society of Internal Medicine, at the Ahwahnee Hotel, Yosemite National Park, October 18, 1958.

More seriously, let me put it this way: I have enormous respect for most doctors as researchers and clinicians. I have considerably less respect for them—with some notable exceptions—as sociologists, economists and political scientists. I have almost no respect at all for what is largely and loosely called organized medicine.

Already I seem to have inserted in this pristine report some very personal opinions. I have voiced my personal views here largely because I'm sure they are shared by a great many—perhaps most—Americans. A number of studies have shown that most of those relatively few people who have (for “have” read “can afford”) doctors of their own think their own doctors are magnificent and almost fault-free men. These same people tend to be suspicious of, if not out and out antagonistic toward nearly all other doctors. Furthermore, they sharply distrust medicine as an organized profession.

Why? If we can understand this ambivalent attitude of the layman toward you and your profession, we will come close to finding out what the profession is doing to harm its standing in the lay mind and what must be done to restore a rapport which once was unquestionably strong and vital.

The re-establishment of this rapport between medicine and the public is without question the most important of organized medicine's goals—and easily the most neglected and misunderstood. It is *the* major goal of organized medicine because, as I see it, socialized medicine (if you'll pardon the expression) is coming to the United States within the next quarter century as sure as such old standbys as death and taxes.

I don't intend to argue the merits or demerits of socialized medicine. I simply want to emphasize that I share the opinion of many thoughtful and unprejudiced people that within 25 years we are bound to have some form of universal, compulsory, prepaid medicine. In my mind the only question that remains is how it will be run and by whom: by you, as it ought to be, or by the Government, which should have a minimum of benign overseeing control. This is the heart of the matter.

I should hasten to say that I do not believe for a moment that the mass of the people share my opinion of the inevitability of socialized medicine. Most people don't even think about it, just as they don't think about any other big issues. Man in the aggre-

gate, as you will have noticed, has a very limited and self-centered horizon. He will accept the arrival of socialized medicine, as he accepts most social changes, with lethargy. He has accepted without a murmur of objection the undeniable presence in our midst of what is called—according to what pundit you read—creeping or galloping socialism. He doesn't like or dislike it particularly; he merely accepts it.

Which means, when you think it through, that you as doctors, that organized medicine, cannot count on any great amount of public support in your fight against socialized medicine—not even with the questionable help of Whittaker and Baxter.

May I remind you again that while the patients of each of you are your respectful and even adoring friends, they don't much like your colleagues and they suspect, with some reason, that your organizations are selfish, self-seeking pressure groups.

Please don't deceive yourselves. Socialized medicine may be a dirty phrase in your circles. It carries no such connotation to lay circles generally. "Free choice of physician" is a fine ringing slogan traded among you and uttered with religious fervor by your spokesmen. It means nothing to the vast majority of men and women. To many of them, of course, financial status prohibits any choice at all. To many more, income level limits choice without quite prohibiting it. And these are the people who account for the growing success and power of New York's Health Insurance Plan and California's Kaiser Plans. But, regardless of financial status, there remains the fact that most of us care not a tittle for free choice. We are—and you might be thankful for it—usually lost in a sort of magic worship of any doctor who treats us, whether we found him in the phone book or on a street corner.

"Third party medicine." You're against that, and quite reasonably so, I suspect. But don't expect that phrase to be a rallying cry around which public support can be formed for your fight. People mostly don't understand what it means, and likely wouldn't care if they did.

The point I'm trying to make, the warning I'm trying to give is that doctors, like many other groups, tend to sit around and sell each other on ideas already widely and basically held by the group—and then assume that everybody else thinks that way too. Most so-called public relations experts pander to this tendency and end by blinding you to the fact that you're leading a crusade without a following.

I find this inbreeding of belief—this contentment with selling the already sold—not only a major tendency in all professions or specialized groups, but the only apparent excuse for the continued employment of most public relations men. I mean the kind

who will tell you you're doing fine, when you're really only talking to each other.

Suppose now we examine some of the reasons for the deterioration of the respect in which the public once held medicine. I think it's fair to say that the public once regarded all of medicine, and all the men of medicine with the same degree of awed respect, of belief in their God-like omnipotence, in which the individual patient still holds the individual doctor.

Many things helped change this attitude, most of them beyond anyone's power to stop. The spread of education and knowledge certainly helped. A growth in cynicism was a factor. The educational campaigns of the voluntary health agencies helped.

But most of all, I believe, blame attaches to a deliberate and overt act on the part of medicine: the decision to launch a massive attack against the assumed threat of socialized medicine, and more specifically, the decision to place that campaign in the hands of a team of political persuaders-for-hire. I have always believed that the jobs Whittaker and Baxter did for the California Medical Association and the American Medical Association were the most damaging things that ever happened to medicine in high places and low.

Worse, the net effect was to strip from medicine and the men who practice it the last shred of mystery. Now the public saw them as the components of just another big pressure group, as human beings, selfish, even greedy—just like everybody else. To many this was a rude shock. To others, it was a challenge. We didn't like to be called Communists because we were not in full accord with everything organized medicine (or was it Whittaker and Baxter?) believed. Our backs went up. Some of them have never gone down.

The campaign had another end result, seldom noted, but vastly important. Let me explain it this way. In the newspaper profession, we are concerned, of course, with the laws of libel. Without knowing much law, a newspaperman becomes subtly and almost subconsciously aware of what constitutes libel in each case. He knows, for instance, that it is pretty hard to legally libel an actor or a politician. The point is that the actor or politician deliberately seeks publicity (is anxious and willing to be favorably mentioned in the public press), so he can expect less help from the courts when his publicity turns sour. The citizen who lives quietly and does not seek "public preferment" in the press has a much greater right to seek legal redress when things go wrong and his privacy is invaded or his motives called into question. And so it is now with doctors. So long as they, or their organizations kept out of the public prints they could expect and were treated with considerable restraint when it came to reporting their wrongdoing.

ings. However, after a group has spent millions of dollars deliberately seeking public preferment in the press and elsewhere, it can hardly expect to still be accorded the restraint shown a self-effacing citizen.

On one side of the communications coin the doctor has, through the dissemination of favorable news about marvelous new medical and surgical treatments and techniques, been pictured as one of the great men of our time. On the other he has been held up as a man very likely to lie about his income to the tax collector, a man who will not police his professional colleagues, the member of a greedy lobby, a part of the country's strongest labor union.

Why is the latter picture in sharper focus than the former in the eyes of the public? For one answer we go back again to the point that each patient loves his own doctor, and tends to personify all the good of medicine in one man. For another, the layman expects the worst of most people; he expects the best of medicine, and when he doesn't get it he is hit harder and remembers longer. What are the sort of things that hit him hard, that he remembers? Let me list a few that have come to my attention.

Many of you will recall that in the early 1930's, at the depth of the last great depression, the California Medical Association twice officially plumped for legislation that seems to have had a rather deep tincture of "socialized medicine." In two different years the C.M.A. officially lobbied in Sacramento for a statewide *compulsory* health insurance plan. Only the opposition of the farm lobby beat the plan in the legislature.

There are many others who recall those incidents. And what are they to think? Is organized medicine's stand against socialized medicine a matter of deep and abiding principle? Or is it merely a matter of selfish economics? Does organized medicine mean to fight socialized medicine when times are good and patients plentiful, embrace it when times are bad and patients hard to come by?

People tend to remember, too, that organized medicine—no matter what it may say today—fought consistently and bitterly against all health insurance schemes once times grew better. Medicine, as it is embodied in the C.M.A. and the A.M.A., gave in grudgingly only when it seemed that some sop must be thrown to the public to head off the proponents of socialized medicine. Now we have in the form of Blue Cross and Blue Shield plans completely inadequate insurance coverage, for which the A.M.A. and its affiliates take full credit, and about which they boast in terms of statistics which are as misleading as they are glowing.

The record of the A.M.A.'s fight against group, closed-panel medical plans—particularly those organized by unions—has not been a pretty one, with

some of its blows both morally and legally below the belt.

The medical profession, like the legal profession, has notably failed to keep its own house in order. Charges of ghost surgery, fee-splitting and the removal purely for profit of healthy tissue—charges made by the American College of Surgeons—brought only indignant cries of denial and attempts to kick the surgeons responsible for the charges out of organized medicine.

Organized medicine has notably succeeded in giving the public impression that it is fighting a last-ditch stand against all social advance and that it is chiefly concerned not with its boasted first principle of healing the sick, but with lining its pockets. This is, I hasten to say, a false impression in most instances, but it is one that medicine too often makes.

I will cite you a significant example. During the annual meeting of the California Medical Association in Los Angeles in 1958 the chief concern of the House of Delegates was the Old Age Assistance program, which any sane man will agree is a poorly written and awkwardly administered law. (I think also that most men of good will would admit that some better form of the same program is necessary and desirable.)

As those of you who were there will recall, the attack on Old Age Assistance came from all directions, in the form of dozens of resolutions. The final resolution, as formulated by committee and kicked around on the floor of the house, was one really of complete negation, since all its other facets were overshadowed by a demand for repeal of both the federal and the state laws which made the program possible.

At this point in the proceedings I was happy to hear the voice of reason, in the person of John Cline and a few others, arise. The plea was sensible and reasonable and the public reaction to it would have been good: Let us amend the resolution to read that the C.M.A. offers its help in the writing of a better substitute law.

But the plea was shouted down. The last-ditchers won by an overwhelming majority. Reason, good public relations and even any faint semblance of humanitarian concern went out the window. Anyone observing that session of the House would not even have guessed that doctors of good will in a number of counties were even then testing pilot plans in an effort to make Old Age Assistance work.

One of your number who is here today came across the floor of the House of Delegates that afternoon to the press table and sat down beside me. "I wish," he said, "that you did not have to be here today, that you didn't have to report this."

I wished so too. It is not pleasant to have to write of apparent greed and callousness in a profession I

respect above all others. The picture could, of course, be softened by explanation, by setting the episode in its proper perspective, but I'd be something less than true to my own profession if I'd tried to hide the fact that this was a pretty nasty show.

I much prefer to write about medicine in terms of the great and selfless researcher in his laboratory, the intuitive diagnostician displaying his skills and the healer at the patient's bedside. But the other aspect of medicine is forced upon me, and hence upon my readers.

Can anything be done about this aspect of medicine, about the public's attitude toward the profession, as represented by its organized bodies and spokesmen? My real duty is to see and report, but in this instance I hope I may be excused if I do a little editorializing—excused on the grounds that I am generally considered a good friend of medicine.

You might well ask why medicine should bother to be popular in the eyes of the public if I am right in assuming that socialization of medical care is inevitable. I think it makes all the difference in the world, the difference between a proper plan run by doctors for their patients, or a plan shoved down the throats of both. I have a great deal more faith in bureaucratic democracy, a great deal less fear of my own government than most people profess. I still would prefer to see medicine run by physicians.

Let me then make a few editorial suggestions:

1. I strongly suspect that the voice of organized medicine does not truly represent the majority of the profession's practitioners. So I would strongly urge that the rank and file of a great profession take a far more lively interest in their societies and associations.

I say this fully realizing how busy most of you are. I say it in the full realization that too many organizations—my own union, the American Newspaper Guild, is no exception—are run by inferior people simply because the superior are either too busy to care or have simply taken to shrugging their shoulders and muttering: "What's the use?"

The way up in the A.M.A. is over a rugged and undemocratic road, but such organizations have been changed by a revolt of the rank and file before, and will be again.

2. If you're not in favor of a major revolution or feel it cannot be accomplished, then let me at least urge a smaller and more precise revolt. Organized medicine's view of public relations—of what it is designed to accomplish, and toward whom it ought to be aimed—is false and stupid. Public relations is not at best a science; and too often it is practiced as a dark—maybe satanic—and subtle art. Much of the sort of public relations you are paying

for in your organized groups is in many respects a waste of money.

You have heard iterated and reiterated one version or another of a slogan that is the medical public relations man's pet these days: "Public relations begins with you and your patient." This, I submit, is utter nonsense—and a dangerous concept. We have already seen that the relationship between the individual doctor and his patient is the one area where rapport is excellent.

This is an area which is yours and your patient's, where the relationship is purely individual and, although I hesitate to use the expression, almost spiritual. It is no place for public relations gimmicks, for cute little cards on your desk or for tissue paper "programs" based on car window observations by ad hoc psychologists. It is a relationship that is simply not amenable to public relations. Dealing with this relationship as though it is in any way a public matter will ruin it—if anything can.

Tell the public relations men to keep hands off; tell them to work out on the boys who really need refurbishing in the public's eyes: the leaders and spokesmen of organized medicine.

3. One more point. You or someone else must see to it that organized medicine comes to represent some things that are progressive and positive, not simply those things which are old and negative. Life moves on, but medicine continues to give the impression that it is fighting a last-ditch stand against progress, that—in the words of Adlai Stevenson—it had to be dragged kicking and screaming into the Twentieth Century.

To most of us the straight fee for services method of practicing medicine is outdated and uneconomic, and is bound to be supplanted. If medicine does not find a substitute for that method then someone else will do it for medicine.

I don't know the answers, but it seems to me you have them available, at least for trial. Modern health insurance is overpriced and inadequate, yet there are better plans available, which organized medicine either ignores or damns. Why, for instance, isn't the A.M.A. solidly back of such excellent ideas as the San Joaquin County Plan? Why isn't it pushing, instead of attacking, efforts to bring good medicine to the Automobile Workers, the Miners and the Steel Workers?

The point of it all seems to be this: No matter what it thinks of the brave new world that looms ahead, no matter how it may despise undeniable trends toward social living, organized medicine is doomed to a future of Federal control unless it chooses to lead instead of dragging its heels.

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Analysis of Absenteeism in Industry

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ABSENCE FROM WORK among the employed population is a subject of increasing concern in medical, management, labor and government circles and in various community organizations. Numerous and energetic attempts are being made to discover and understand the causes of excessive cost of sick pay benefits, and to apply effective methods of control and remedies. Over the years, an appreciable body of literature has been developed in the United States dealing with medical, economic and sociological aspects of this problem. Each such contribution, while helping to explain the nature of segments of the problem has, at the same time, led to some confusion through presenting differing definitions, measurements and attitudes toward absence.

Those interested and responsible for control of absenteeism in industry must take an objective attitude toward the problem. It will be difficult to obtain satisfactory results by approaching the problem with irritation, prejudice or anger.

Management Opinions

There is a wide divergence of opinion among management men as to the nature and extent of the problem. Asked to give what they consider to be the most common causes of absenteeism and tardiness, 98 executives listed the following causes. Since most of them marked several reasons, the total percentages take into consideration all responses:

Sickness (Real)	80 per cent
Sickness (Imagined)	70 per cent
Home Problems	65 per cent
"Don't Care" Attitude.....	35 per cent
Poor Supervision	28 per cent
Transportation	20 per cent
Accidents	12 per cent
Drinking	8 per cent
Weather Conditions	6 per cent
Personal Business	6 per cent

Truancy as a Factor

While truancy can be considered a factor in absenteeism, it must be treated as a symptom of human behavior. It would be interesting to know the number of persons who were truant from school and later were truants in work situations. Such a study might help us to prevent industrial truancy by find-

• There are many nonmedical factors that contribute to employee absenteeism in industry. An employee's total life situation or total environment may be a causative factor in excessive "sick absenteeism." In many instances the cure for "abnormal" sickness absenteeism is within the province of supervisory personnel, who should look upon abuse of sick leave benefits among employees as morale problems and as evidence of possible maladjustment to the demands of the job or the industry. There are, however, many problems in mental and physical health affecting absence rates in which preventive psychiatry and medicine can make greater contributions. Even truancy and malingering may sometimes be conditions requiring professional medical care.

The role of a private physician in determining and certifying the true state of a patient's health is a most important one economically to industry and the community. The total problem of absenteeism for sickness, as it exists in industry today, points up the need for the most effective cooperation and communication possible between industrial and private physicians. Since no more than 25 per cent of the total work force is employed in industries having in-plant medical programs, the burden of responsibility for the control of absenteeism for sickness rests mainly with private practitioners.

ing common individual and environmental problems in the industrial and school situations. In this connection, Chart 1 shows the number of one-day absences in March, 1958, distributed by days of the week, in an industry employing close to 6,500 employees. This shows more absences Mondays and Fridays than in the middle of the week. A larger sample than one month's absences is necessary for significant conclusions, but analyses of this type can be important in finding hidden costs of absenteeism due to alcoholism.

The Effect of Shift Work

Some physicians and laymen are of the opinion that ill health is more frequent among workers on night shifts than it is among day workers, particularly in the form of nervous diseases and gastric disorders, including gastric and duodenal ulcers. It is also maintained by many observers that heart disease, particularly coronary occlusion and angina pectoris, is more frequent among shift workers than among day workers.

Presented before the Section on Industrial Medicine and Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

The author is Medical Director of General Petroleum Corporation, Los Angeles.

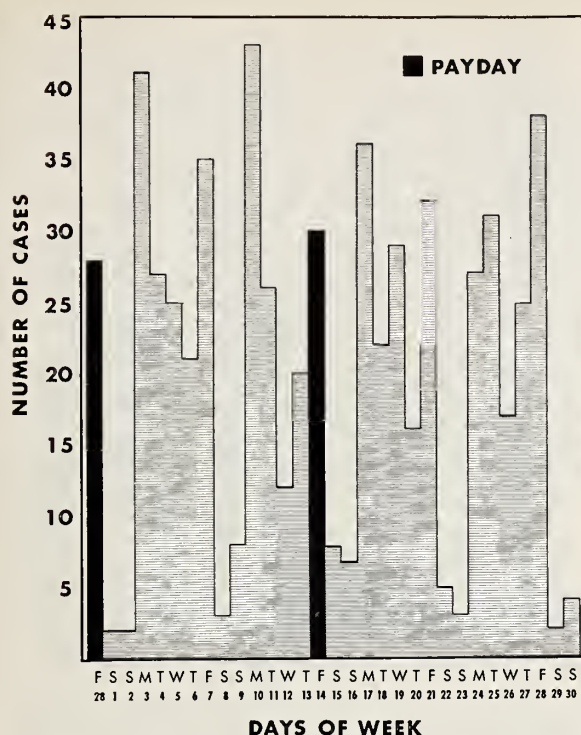


Chart 1.—Frequency of one-day absences in one month (March, 1958) in an industry having about 6,500 employees.

Exhaustive studies were carried out in Sweden both with regard to the current practice of shift rotation and with regard to finding out what is the most desirable practice. The results showed that the absenteeism of the day workers was greater than that of shift workers. The difference averaged about 1 per cent—that is, one working day per hundred working days. This difference was not a chance one, as the observations were carried out over a long period, the investigation material was considerable and the result was the same year after year. The conclusion was that general ill health was no more frequent among shift workers than it was among the day workers.

Age is another factor of the problem; absence for illness was nearly three times as great in the 60-and-over age group as in the 20 to 38 age group.

The author attempted to study samples of one and two-day absences among employees of an oil refinery for the first six months of 1953. The highest incidence of these absences was in the lower age groups, more particularly between the ages 31 and 35. At the age of 40 there was a sharp decrease in these short-term absences. It appeared that the largest number of one and two-day absences was in the younger employees with less service; also in the group between the ages of 20 and 35 there was a significant number of one and two-day absences

following days off. These short-term absences represent an important factor in cost for sick leave.

The author looked at the problem recently from the standpoint of job classification. Data on the previously mentioned refinery showed, generally, that administrative and supervisory and professional and technical employees have a relatively low incidence rate (cases per employee .53 and .80, respectively, for male employees), while clerical employees and skilled employees have incidence rates of 1.85 and 1.82, respectively, as compared with the aggregate of 1.62 for the total male population. Unskilled employees (usually younger), however, had a short absence incidence rate of 2.78—appreciably higher than the population total.

Administrative and supervisory employees (usually older), on the other hand, had the highest severity rate (5.77 days per absence), while the remaining classes had average absences ranging from 2.92 days to 3.29 days. The highest rate of total days lost per employee was in the unskilled classification; male employees in that category lost an average of 9.16 days last year. This compared with only 3.05 days for administrative, 2.34 for professional, 5.74 for clerical and 5.79 days for skilled employees.

The problem of repeated short-term absenteeism must be distinguished from long-term absenteeism, since the latter practically always is due to illness, while the former can be mainly a symptom of human behavior (see Charts 2 and 3). This symptom usually is related to problems of the employee on and off the job and these problems frequently are not strictly medical. In the younger age group, most repeated short-term illnesses, especially the one-day absences, become problems of audit primarily for supervisors and foremen and secondarily problems of medical evaluation.

Employment of Older Persons

Now that more elderly people are being employed, it will be to industry's advantage to secure more information and data concerning the physical and mental health of older persons, as a means of reducing long-term absenteeism of this group.

Absentee Proneness Variations Due to Organic and Psychosomatic Factors

All physicians are familiar with certain physical disabilities that might affect an employee's attendance and performance on a job. Some people are more susceptible to certain psychosomatic diseases and are more prone to sick absenteeism than others—their pain and stress thresholds are lower than for the average. Investigations definitely indicate that where a person is prone to stress and nervousness he is also, as a rule, prone to digestive troubles and sick absenteeism.

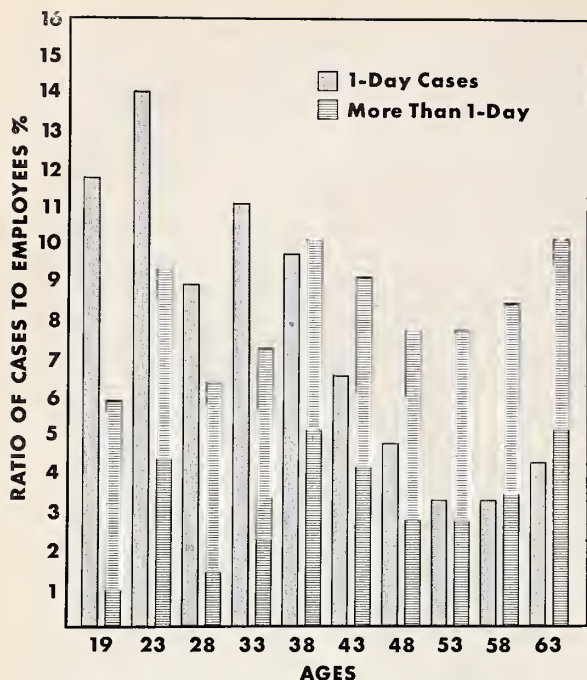


Chart 2.—Data on one-day absences compared with longer term absences in a one-month period among male employees of a company having about 6,500 employees.

Many people because of sensitive nervous systems and “fragile” ears cannot stand the noises of clattering machinery. This aversion to noise may be increased in men who have been subjected to severe bombing and artillery fire during military service. Such persons build up tension over a period of time while working, and periodically must take time off from work because of fatigue.

The Effects of Epidemic or Endemic Respiratory Diseases

The outbreaks of “Asian influenza” in 1957 and the production of large amounts of vaccine with which to stifle any threatened epidemic of this disease, aroused great public interest. Many industries, fearing a dislocation of their operations if any appreciable proportion of their employees is disabled at any one time, are still discussing whether or not they should endorse, or participate in, mass inoculations with influenza vaccine. Unusual public interest in the epidemic of 1957 focused attention on industry’s public health responsibilities in the realm of prevention of communicable disease generally.

The total impact of the epidemic turned out to be relatively mild. As measured by excess mortality, it was only slightly more severe than the 1953 epidemic of influenza A prime, and was considerably less severe than the 1943 epidemic of type A influenza.

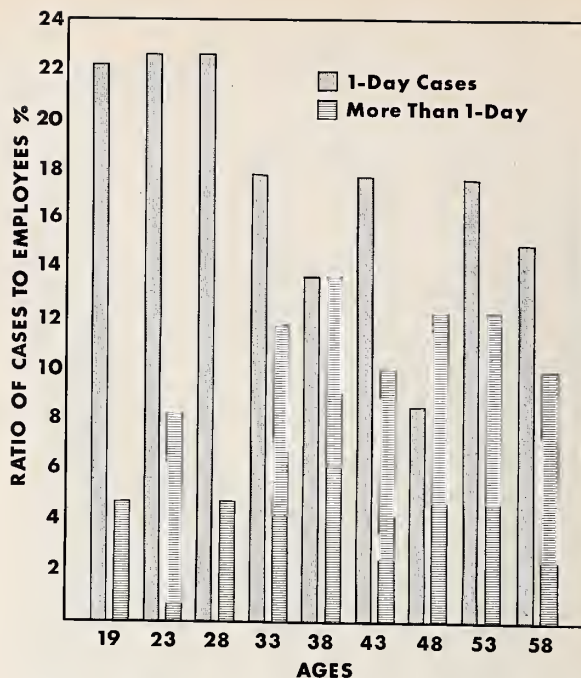


Chart 3.—Data on one-day absences compared with longer term absences in a one-month period among female employees of a company having about 6,500 employees.

As measured by morbidity, the epidemic was extensive. Essentially the whole country was affected. Absenteeism seemed to be highest in school children. Many industries felt the impact, but there were few reports of community disruption or serious interference with productivity or essential services.

The new respiratory viruses surely deserve some mention in any discussion of absenteeism and the epidemiological aspects of respiratory disease. Ten years ago the influenza viruses and psittacosis were virtually the only known respiratory viruses, but now, thanks to the tissue culture methods, a profusion of adenoviruses, Coxsackie viruses and various myxoviruses and hemagglutinating agents have been associated with respiratory infections.

Many other viruses have been described and related to human infection through the demonstration of specific antibody responses, and to a less definite extent they have been related to human disease.

Although all the principles for the recognition, isolation and prevention of virus infection have been established, the extent and nature of the causes of the majority of mild respiratory illnesses causing industrial sick absenteeism must still be sought.

Environmental Factors On and Off the Job (Psychologic)

Excessive worry because of difficulties on the job, in the home or in the community, or because of personal conflicts with supervisory personnel or

other workers, frequently results in absences from work. The anxieties and worries of employees cannot be ignored by supervisors. It is important for supervision to have a working understanding of human behavior. In this connection, a recent study revealed that more men in blue-collar work groups with low absence rates than with high absence rates reported that their foreman usually or always had enough time to see them when they wanted to talk about something personal.

Employee dissatisfaction is a question of attitude and can affect absence rates. Usually this dissatisfaction is limited to the employee concerned. However, it may affect one individual, become contagious, and pervade a whole group. We then have an industrial unrest with poor morale, and increased labor cost may be directly proportional to the morale of the employees.

In a recent study of a group having the highest absence rate, only one-fifth of the men were "very satisfied" with the company and their jobs as a whole. Half or more of the men in the other absence groups were very satisfied.

Even though employees get their checks from their company, the individual supervisor or foreman often represents the company to most employees. Supervision and management must recognize certain emotional hazards that destroy morale and efficiency and may cause discontent not only in individuals but in groups of employees, and conceivably could come to general grievance against the employer.

Specific Emotional Hazards of Employment

What are some of these emotional hazards in employment? They can be classified briefly as insecurity, anxiety, worry, fear and discontent. An employee who feels that he is not wanted develops a sense of insecurity. This insecurity can only be overcome by making him feel that he means something to the office and the company and is not just a "wage plug." Studies reveal that more men in the lower-absence groups feel that they are a real part of their group and are included in all its activities. In groups with low absence rates, more men feel that their group has team spirit and is better than other groups in getting the job done.

Work attendance is also related to how much a person likes his work. There was a time when to all good craftsmen and artisans the pride of accomplishment was the dessert of the feast. Getting paid enabled them to buy the bread. In the evolution of industrial processes, this has all changed. Today the master is separated from the servant and the servant, more and more, from the product of his toil.

More men in low-absence groups feel that the company recognizes good work the employees do

(94 per cent in the low absence-rate group as compared to 54 per cent in the high absence-rate group).

The Problem of Alcoholism

Reliable, up-to-date information about alcohol and "problem drinkers" was presented in a recent report of the National Industrial Conference Board, Incorporated. Attention was focused on how excessive drinking creates and aggravates different company problems. It was found that problem drinkers miss work about twice as often as other workers, and report late for work more frequently.

Attendance figures for 16 alcoholic workers in a plant near Boston were studied. The men lost a total of 4,368 hours of work during one year, or an average of almost three 8-hour days per month each. These figures show the loss of time for alcoholism alone, and do not include time lost for ancillary complaints. Also, they show only a one-year experience after the men had been identified as alcoholics and treatment had been instituted. It is estimated that these men had been problem drinkers for at least five years before the time of the study.

Possible Solutions

Efforts on the part of supervisory personnel to reduce short-term absenteeism must embrace not only conditions on the job, but in the workers' environment away from the job. Satisfactory results are not to be obtained by slapping workers on the back, coddling them or being overindulgent. However, more time can be spent with chronic short-term absentees in pointing out the importance of their particular task in the unit to which they are assigned and questioning the employee with regard to his emotional reaction to the job and his home environment. Another approach for supervision is to give appreciation and credit to the employees who are regular in attendance.

Perhaps the most effective check on abnormal absences from work is a constructive attitude on the part of the employee's immediate supervisor. If he seeks and finds patterns to absenteeism he will be getting closer to the real causes. It might be absence on days when the employee knows a certain type of work is coming up that he doesn't like to do. It might be Monday for the drinker, or special shopping sales days for the women employees, or time off to attend funeral services of friends or relatives. If the supervisor can find the *real* reason by studying the employee's record over a period of time, he can better determine the remedy.

The Positive Approach

It is generally agreed that a positive approach to solving the problem is more effective than a negative

approach. Appeals to the employee's sense of fair play, his importance to the work group as a whole, chances for advancement and more money, are felt to have more real effect on the worker than threats of discipline and punishment.

This does not exclude, however, the very vital part good record keeping and adequate supervision play in holding the rate down: For instance, I-T-E Circuit Breaker Company of Philadelphia has "reduced the absence rate from approximately 5 per cent to less than 3 per cent by use of record cards and annual reports."

The following are among the items suggested by the Committee on Medical Care for Industrial Workers of the American Medical Association for inclusion in sick absence records in individual or consolidated [group] records and reports. They do not preclude the addition of other items considered necessary by individual physicians or companies for other types of analyses:

1. Name or identifying number
2. Sex
3. Marital status
4. Department
5. Occupation

a. Managerial and supervisory	} Salaried
b. Clerical and sales	
c. Skilled	} Production
d. Semi-skilled and unskilled		(hourly)
6. Length of service with company
 - a. Less than 1 year
 - b. 1 to 4 years
 - c. 5 to 9 years
 - d. 10 to 14 years
 - e. 15 to 19 years
 - f. 20 to 24 years
 - g. 25 and over
7. Date of beginning of absence
8. Date of returning to work or other termination
9. Duration of absence in calendar days
10. Date of birth
11. Age group
 - a. Under 25
 - b. 25 to 34
 - c. 35 to 44
 - d. 45 to 54
 - e. 55 to 64
 - f. 65 and over
12. Diagnosis
13. Classification
 - a. Nonoccupational illness
 - b. Nonoccupational injury
 - c. Occupational illness
 - d. Occupational injury
14. Number of days of paid sick leave allowed

15. Calendar days of absence

- a. 1 day
- b. 2 days
- c. 3 days
- d. 4 to 7 days
- e. 8 to 14 days
- f. 15 to 28 days
- g. 29 to 49 days
- h. 50 to 91 days
- i. 92 to 182 days
- j. 183 days and over.

We mentioned earlier that repeated one or two-day absences are problems of audit primarily for supervisors and foremen, and, secondarily, problems of medical evaluation. However, supervision must be furnished effective statistical tools in order to carry out this type of control, as in the case of the Gillette Company, whose control system includes:

A. Control by line supervision

B. Use of reports:

1. A summary monthly absenteeism report is made up for the company president and operating department heads.
2. Charts are prepared and distributed to department foremen showing absenteeism, tardiness and "early quits" by department. Also shows male and female employee comparisons.
3. Quarterly reports listing employees and number of occasions absent are sent to each department head.

Use of Visiting Nurses and Other Home Checks

Still used by over 60 per cent of industry is the system of visiting nurse service or of telephone and home checks on absence and tardiness cases. The job usually is a function of the personnel department, which checks on absentees each morning to see how they are and when they will be back. A personnel director of a New England sheet metal plant reported: "Home checks may be old as far as control techniques go, but we have found they are still one of the most effective tools for spotting absence violators. Care must be taken to avoid 'snooping,' and if the calls are made in a friendly, yet businesslike manner, employees appreciate the company's interest in their welfare." A medical department in industry must exercise a great deal of caution and propriety if it is brought into this type of activity.

It is important for industrial physicians, industrial nurses and physicians in private practice to understand and appreciate the patient's emotional fibre and personality in considering the symptoms, etiology and the treatment of illness. Such considera-

tion will shorten the period of convalescence and probably will eliminate some of the fancied illnesses as a cause of absenteeism. You may even prevent a worker from developing a gastric ulcer because of the attitude of a supervisor or a foreman.

Role of Psychiatrist in Large Plants

In industries with large employee plant populations (10,000 to 15,000 and over), a psychiatrist can increase his contribution toward remedying the problem by working with supervisory personnel as well as with individual workers. The greatest problem is how best to utilize our present knowledge of psychiatry and mental hygiene practically in a functional industrial program. It is at this point that psychiatrists and mental hygienists must retool their knowledge for industry in a practical fashion so that we may learn to recognize and learn how to handle and treat the disturbances of people within the industrial environment.

One industrial psychiatrist reported that in the presence of foremen he meets and has discussions with workers who have been absent. This has proven valuable in giving foremen a more comprehensive understanding of the worker, and in turn the worker understands that the foreman is the first source of contact when difficulty arises. The psychiatrist further suggests that workers voluntarily approach the foreman and ask for an opportunity to "talk with the Doc" again. Perhaps the best indication of the effectiveness of this method is the foreman's statement, "Got another one for us to talk with, Doc!"

Key Role of Foremen and Supervisors

Foremen are in a position to give real assistance in discovering and treating the symptoms of absenteeism. Supervisors who are easily available to the employees are in a better position to find out about their personal problems. They can give appreciation and credit to the men and women who are regular in attendance. They can take a personal interest in eliminating specific causes of absences or unreported absences. They can impress upon employees the importance of reporting necessary or unavoidable absences in advance. They can cooperate with the other departments and help correct misunderstandings or errors which may occur in connection with excused or authorized absences.

Preventive Medicine and Respiratory Disease

We are on the verge of a great revolution in our thinking about the etiology of respiratory diseases. The hope of control lies in the development of multiple antigen vaccines.

A study by Eastern Air Lines showed some serological results obtained in a study employing Asian

influenza vaccine. They indicated antibody response varying in accordance with the amount of virus injected. The best responses were experienced following two injections. There were indications that the vaccine provided some protection, as judged by the reduction in absenteeism owing to respiratory illnesses.

Adenovirus immunization is not indicated in any but recruit camp populations. A vaccine containing type eight adenovirus might forestall large epidemics of keratoconjunctivitis such as have occurred in shipyard and other workers in the past.

As preventive measures against respiratory disease do become available through scientific research, industry is in a position to reach a considerable segment of the adult population.

To vaccinate or not to vaccinate—that is the question facing many company managements. The indecision of company managements stems from the many contingencies connected with mass group vaccinations, such as conflicting opinions of health authorities regarding the need.

The particular industry's decision on whether to do so will be governed by many factors which include costs, anticipated results, company policy and the potential threat of an epidemic. Perhaps one of the most important considerations will be the possible impact of the disease on the productive capacity of the industry and the significance of this to the welfare of the public which it serves.

Long-Term Sickness

So far this communication has dealt with the problems of short-term absenteeism in industry. The answer to the problems of long-term sick absenteeism lies in periodic health evaluation of employees, both young and old, under a preventive health maintenance program sponsored by management. Reliance must be placed on the earliest possible detection of incipient disease. The results of such a program are worth while, but must be evaluated on a long-term basis over a period of years.

Important Role of Off-the-Job Safety Program

The increasing number of long-term absences due to injury away from the job, is becoming a serious problem to most employers from the standpoint of time loss from the job (almost twice the severity rate of most illnesses), permanent disabilities among employees and costs in sick leave. These losses are frequently compounded by litigation in the courts. Many employers have begun to pay some attention to the problem by integrating preventive programs for off-the-job accidents with their regular industrial safety programs.

The Small Plant Problem

The greatest number of men and women in the country are employed by small plants and corporations. Some of the ideas which have been suggested may be impractical or too costly for them to utilize. The alternative, for positive action, is for small plants in an area to pool resources and thereby secure the desired personnel to solve their particular problem on sick absenteeism.

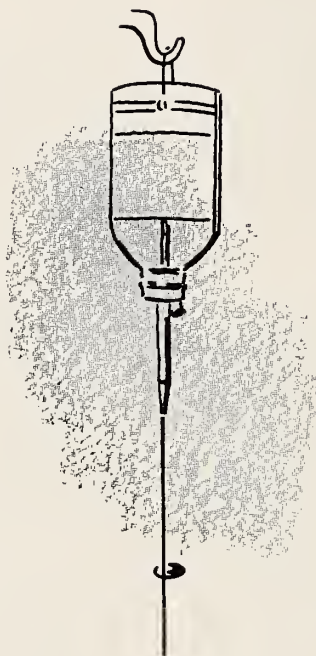
Responsibility of Physician in Private Practice

The private physician, by virtue of patient-physician relationship, is properly a champion and advocate of his patient's welfare. However, in cases of illnesses of his patients, he is frequently called on to certify their disability at a time when they have recovered and present no objective findings on which to validate the illness. In many situations the private physician must face one of several possibilities: an irate patient; loss of the patient's confidence; or unwittingly becoming a partner to some

unjustified claim of illness. In some cases the certification of personal illness by a private physician is expected by the patient upon the basis of economic rather than strictly medical factors.

Industrial physicians must look with equanimity upon matters concerning the certification of illness. They have found that in the majority of questionable cases, personal contact with the private physician explains and justifies many situations which are not justified on paper. I need not emphasize that "rubber stamp" certifications by private physicians are not only costly to the employer but are harmful to morale and make no contribution to the worker's mental health. There are some cases in which we must recognize "the adult version of the boyhood headache allowing baseball on Saturday but preventing church on Sunday." Close cooperation of private physicians and industrial physicians can help to maintain smooth patient relationships in these difficult situations and reduce cost of illness to employers and community welfare agencies.

612 South Flower Street, Los Angeles 54.



A New Noncrushing Intestinal Clamp

HAROLD MASTERS, M.D., Beverly Hills

IN SURGICAL OPERATIONS entailing an opening in the intestinal tract, there is always the problem of preventing spillage of intestinal contents. The "soft" intestinal clamps now generally used are straight or slightly curved instruments 8 to 12 inches long. They are adequate if the involved intestinal loops are mobile and easily exposed but are of limited value if exposure is restricted and space limited.

For example, one of the problems faced in low anterior resection of the rectosigmoid colon is the prevention of spillage from the proximal portion of the colon while anastomosis is being done. The standard straight or curved "soft" intestinal clamps, owing to their shape and size, tend to twist or sharply angulate the proximal colon when attempt is made to bring it down into the depths of the pelvis. One attempt that was made to avoid this distortion and angulation of the proximal colon during anterior resection was the development of right-angle intestinal clamps. Now in general use, these right-angle clamps have handles 10 to 15 inches long to permit either the operating surgeon or an assistant to manipulate the colon for easier placement and suturing during anastomosis. However, the length and weight of such clamps are definite drawbacks; they are in the way during earlier stages of the operation. In addition right-angled instruments of this type are particularly suited only to anterior resections and can be used only rarely in other parts of the abdomen.

It appeared, therefore, that a more applicable instrument would be a light, noncrushing clamp with a small handle. Such a clamp would not take up too much space when used in anterior resections of the colon and indeed could be used anywhere within the abdominal cavity where occlusion of the intestine was needed, space was limited or exposure poor. Ideally, the instrument could be applied as simply as a

bull-dog clamp is applied to a blood vessel in vascular operations.

With these requirements in mind, the intestinal instrument pictured in Figure 1 was designed. Weighing less than 2 ounces, it does not restrict the mobility of the bowel. It can be made with blades of different lengths. Those pictured are 3 inches long. As the surfaces that clamp the intestine are a half-inch wide, the pressure is distributed over enough area not to damage the intestine while the clamp is in position. As the instrument is being closed, the tips of the blades meet first, then the main body of the surfaces come together as slightly more pressure is applied. Longitudinal serrations to prevent slippage make cloth or rubber coverings for the jaws unnecessary. The handle of the instrument, being at right angles to the jaws, lies parallel to the bowel during actual use.

This instrument has been used in a large number of intestinal operations and has been found to overcome many of the difficulties noted with the use of clamps of the kind formerly employed.

435 North Roxbury Drive, Beverly Hills.

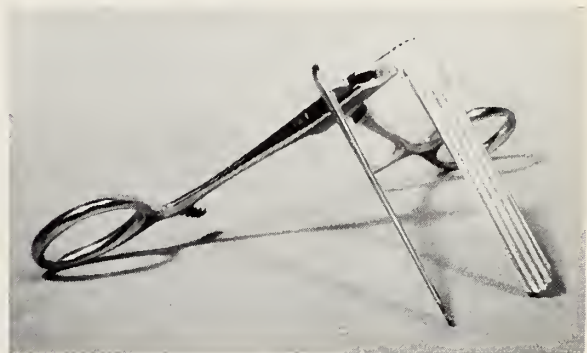


Figure 1.—New style, lightweight intestinal clamp in open position showing wide, serrated surface of blades which are set at right angle with shafts. (The instrument is obtainable from V. Mueller and Co., Chicago, Illinois.)

Submitted May 25, 1959.

CASE REPORTS

Ratbite Fever Due to *Streptobacillus Moniliformis*

A Report of Two Cases

WILLIAM A. BURKE, M.D.,
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RATBITE FEVER due to *Streptobacillus moniliformis* is also known as Haverhill fever and erythema arthriticum epidemicum. Although the disease is transmitted to man by the bite of an infected rat or other rodent, it may also be acquired from contaminated food and milk. The causative organism is a normal inhabitant of the nasopharynx of rats, but is highly pathogenic for mice. In human beings it is the cause of one kind of ratbite fever, characterized by fever, rash and polyarthrititis. The incidence of ratbite fever is highest among infants and children.

Ratbite fever due to *Streptobacillus moniliformis* has been reported from all regions of the United States but is extremely rare west of the Mississippi River. This geographic distribution, no doubt, is a matter of recognition and reporting, for there is no reason to believe that this worldwide disease is new to the western section of North America. To the best of our knowledge, the cases presented here are the only two proven cases of ratbite fever due to *Streptobacillus moniliformis* among residents of Los Angeles County. In 1950 at the Los Angeles County General Hospital another case of the disease was diagnosed by cultural studies, but the patient was a transient who had been bitten by a rat in Stockton, California, three days before he was admitted to the hospital.

REPORTS OF CASES

CASE 1. A 3-year-old white boy was admitted to hospital February 19, 1957. He said that he felt sick all over and his parents described pain and swelling in the right knee. He had complained of pain in the knee three days previously and his mother had noticed he was limping. A physician who was consulted noted a morbilliform and petechial skin eruption on the buttocks. This rash did not fade when pressure

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Submitted July 10, 1959.

was applied to the area. No evidence of trauma, swelling or inflammation was observed about the knees, but next day when the patient was reexamined a definite swelling was noted in the right knee. The rash had spread to the lower trunk and the arms. Orthopedic consultation was obtained. No abnormalities were seen in roentgenograms of the right knee. Immobilization of the joint was advised. On the day of admission the patient vomited once, was drowsy and showed general malaise.

The past history was noncontributory. The patient was a well developed and well nourished boy. He appeared lethargic but not in distress. The temperature was 99.6° F., the pulse rate 100 per minute and respirations 25 per minute. The distribution of the rash remained the same, but a few areas were purpuric. The right knee was swollen but not red or hot or limited in motion.

Hemoglobin content was 11.1 gm. per 100 cc. of blood. Leukocytes numbered 12,000 per cu. mm.—with 74 per cent neutrophils, 15 per cent lymphocytes and 11 per cent monocytes. A slight degree of anisocytosis was noted in the erythrocytes. Platelets appeared normal in number. The urine was positive for acetone; the sediment contained 0-2 leukocytes and one erythrocyte per high power field. A Gram-stained specimen of the centrifuged sediment showed no definite organism. *Pseudomonas aeruginosa* and gamma *Streptococcus* grew on a culture of urinary sediment. The stool specimen was described as soft, yellow, mucoid and with no visible traces of blood. A fecal culture grew an organism belonging to the *Coli-Aerogenes* group. No organisms of the *Salmonella-Shigella* groups were isolated. A blood culture taken on the day after admission, produced no growth after 16 days of incubation. The blood antistreptolysin titer was within normal limits. The C-reactive protein showed a moderately positive reaction. The corrected blood sedimentation rate was 47 mm. in one hour. On the seventh hospital day it decreased to 19 mm. in an hour. Results of macroscopic blood agglutination tests for typhoid "O," typhoid "H," paratyphoid "A," paratyphoid "B," proteus OX19 and *Brucella abortus* were negative. A first strength intradermal tuberculin test showed no reaction.

Throughout the hospital course the patient remained afebrile. On the second hospital day there was minimal enlargement of lymph nodes in axil-

lary, cervical and inguinal areas. By the third hospital day the swelling in the right knee had subsided completely, while by the sixth day the skin lesions and enlargement of lymph glands had also cleared. The child appeared alert and happy and became active. On the eighth day he was dismissed untreated and without diagnosis. During his stay in hospital two serum specimens (taken six days apart) were sent to the California State Department of Public Health for agglutination studies* for ratbite fever due to *Streptobacillus moniliformis*. Six weeks later the results were reported "positive" as follows:

Specimen drawn February 21, 1957, positive in all dilutions 1:20 through 1:160; negative dilution of 1:320.

Specimen drawn February 27, 1957, positive in all dilutions 1:20 through 1:160; partial reaction in dilutions 1:320 through 1:2560.

A third specimen requested by the same laboratory (drawn April 22) was reported positive in dilution 1:640 and partially reactive in dilutions up to 1:5120.

With these data, a final diagnosis of ratbite fever (Haverhill) due to *Streptobacillus moniliformis* was made. When observed several times later, the child remained afebrile and asymptomatic.

CASE 2. A Negro boy seven and a half years old entered the hospital on April 6, 1959, with complaint of periodic fever and pain and swelling of both knees for the preceding three weeks.

On the day of onset, at first only the right knee was swollen, but within a very few hours both knees were involved and the pain was aggravated by weight bearing. The mother observed "nothing else unusual" except that "he felt feverish at times." Two weeks before entering the hospital he was examined at the pediatric and the orthopedic outpatient clinics. No history of trauma was elicited.

The patient was alert, well developed and well nourished and he did not appear ill. The temperature was 98.6° F., the pulse rate 90 and respirations 20 per minute. The skin was clear and there was no external evidence of trauma. There was definite evidence of diffuse swelling of the right knee, but there was no tenderness or increased local heat. Motion of the right knee was slightly restricted, and pain was evident with forced extension and weight-bearing. Roentgenograms of the right knee showed soft tissue swelling, but no involvement of the bony structures. It was stated in the radiologist's report that "the findings are certainly consistent with synovitis." Approximately 3 cc. of serosanguinous mucoid fluid aspirated from the knee was sent to the laboratory for bacteriologic studies, including animal inoculation for culture of tubercle bacilli. The patient was sent home with instructions to avoid weight-bearing and to return to the outpatient clinic in a week. On the day of the scheduled appointment he was found to have a temperature of 101° F. and a diffuse swelling of both knees which did not seem

to be inflammatory. The swelling was moderate in the right knee and minimal in the left. The patient did not appear ill, and no other abnormality was noted on physical examination. The patient was then admitted to the pediatric inpatient service for further studies.

The child had been born and reared in the Los Angeles area. The parents and siblings were said to be in good health. There was no known contact with tuberculosis.

The hemoglobin content was 12 gm. per 100 cc. of blood and the hematocrit was 38 per cent. Leukocytes numbered 3,000 per cu. mm.—48 per cent neutrophils (42 per cent segmented cells, 6 per cent banded), 1 per cent eosinophils, 45 per cent lymphocytes and 6 per cent monocytes. The corrected sedimentation rate was 12 mm. in one hour. The results of urinalysis were within normal limits. A culture of material from the throat grew no pathogenic organisms, and none grew on a culture of blood after ten days of incubation. Results of a test for sickle cells were negative. There were no lupus erythematosus cells demonstrated in the peripheral blood. Results of antistreptolysin titer and C reactive protein tests were reported as within normal limits. The fluid aspirated from the right knee a week before the patient entered the hospital showed no growth on culture in seven days of incubation. A stained specimen was negative for acid-fast bacilli. Tuberculin skin tests with the first and intermediate strengths showed no reactions. No abnormalities were noted in roentgenograms of both knees and the chest.

The patient remained afebrile and at no time appeared ill. By the third hospital day the swelling in both knees had subsided. The management of the patient consisted of bed rest and giving acetylsalicylic acid as needed for pain. On the fourth hospital day he was up and about and had no complaints. On the day before he was dismissed from the hospital, a specimen of serum was sent to the California State Laboratory in Berkeley for agglutination studies for ratbite fever due to *Streptobacillus moniliformis*. The patient was dismissed on the sixth hospital day without diagnosis. Seven days later the serum was reported "positive" for *Streptobacillus moniliformis* by the State Laboratory. Reports on that specimen and succeeding specimens were as follows:

Specimen drawn April 10, 1959, positive reaction at dilution of 1:80 and partially reactive at 1:320 dilution.

Specimen drawn April 24, 1959, positive reaction at dilution of 1:160 and partially reactive at 1:320 dilution.

Specimen drawn May 11, 1959, positive reaction at dilution of 1:80 and partially reactive at 1:320 dilution.

The patient remained asymptomatic, returned to school and resumed full physical activity.

*The studies were done at Walter Reed Hospital, Washington, D. C.

DISCUSSION

The cases presented here are unusual in that there was no history or clinical evidence of a bite by a rat or other animal. Furthermore, both patients recovered completely without chemotherapy. Inasmuch as there were few symptoms, the principal findings were serologic. An agglutination of 1:80 against the prepared phenolized antigen is considered significant.

In recent years treatment with penicillin has been found efficacious.

SUMMARY

Two cases of ratbite fever due to *Streptobacillus moniliformis* were proved by positive reaction to serologic tests. These are the first cases of this disease to be reported from Los Angeles County. Recovery was uneventful without specific therapy.

Queen of Angels Hospital, 2301 Bellevue Avenue, Los Angeles 26 (Kwong).

Simultaneous Occurrence of Squamous and Adenocarcinoma of the Lung

WILLIAM MANDEL, M.D., and
JESSALENE H. THOMAS, M.D., San Francisco

INSTANCES of multiple primary carcinomas can be found in most large tumor registries. To establish this diagnosis, the tumors must differ histologically, must arise in different locations and must be the source of metastatic lesions. In most reported cases of multiple primary carcinomas, only the first two criteria are met.^{9,11} The present report describes an example of a relatively infrequent coincidence of lesions—double primary bronchogenic carcinoma*—and demonstrates the difficulties of determining which of two coexistent lung lesions is malignant.

REPORT OF A CASE

A 77-year-old white man entered the hospital because of cough, shortness of breath, fatigue, lethargy, weakness, anorexia, loss of 30 pounds of weight and swelling at the ankles, all of three months' duration. He had no history of exposure to industrial irritants or to tuberculosis. He had smoked one package of cigarettes daily for 50 years.

On physical examination, the patient appeared acutely and chronically ill. The temperature was 98°F., the pulse rate 140 and respiration 36 per minute. The blood pressure was 100/70 mm. of mercury. There was no cyanosis of the skin or mucous membrane and no clubbing of the fingers or toes. In the sitting position, his neck veins were distended. The anterior-posterior diameter of the

chest was greater than normal. Respiratory movements on prolonged expiration were decreased. The lungs were dull to percussion over both apices. Hyperresonance to percussion was noted over the lower one-third of the chest anteriorly and posteriorly. Musical and subcrepitant rales were heard throughout both lungs. The cardiac impulse was not seen or felt, and the cardiac border could not be percussed. The cardiac rhythm was regular and rapid, and no murmurs were heard. The liver was tender to palpation, and the edge was felt 7 cm. below the right costal margin. No shifting dullness or fluid wave was elicited in the abdomen. Pitting edema in the lower extremities and extending to the sacral region was noted.

A roentgenogram of the chest (Figure 1) showed flattened leaves of the diaphragm bilaterally and increased radiolucency of both lung fields. An oval density in the left apex contained a radiolucent area, suggesting a cavity. An infiltrative process was present in the apex and first anterior interspace of the right lung.

Reaction to a tuberculin skin test was positive; to histoplasmin and coccidioidin skin tests, negative. Smears and cultures of the sputum were negative for tubercle bacilli. In cytologic study of the sputum, bizarre hypercornified, multinucleated hyperchromatic cells were observed. Bronchoscopic examination revealed no abnormalities. Specimens taken from the left and right bronchial trees were unsatisfactory for cytologic study. No pathologic changes were noted on biopsy of specimens from the right and left scalene lymph nodes.



Figure 1.—Posterior-anterior roentgenogram of chest showing lesions in the right and left upper lobes.

From the Department of Medicine, University of California School of Medicine, San Francisco 22.

Submitted February 25, 1959.

*References 1, 3-8, 10.

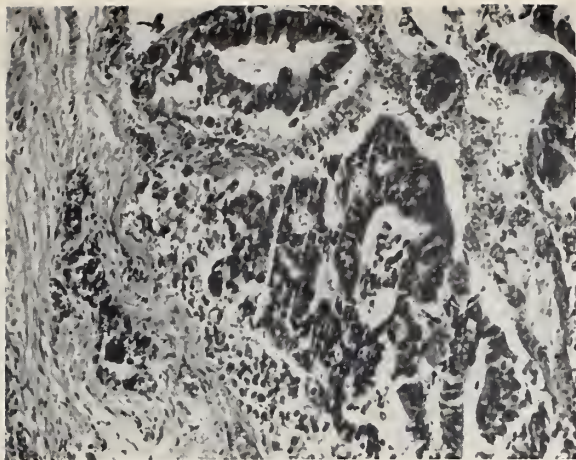


Figure 2.—Photomicrograph from apex of right lung showing adenocarcinoma with gland formation ($\times 250$).

The attending staff thought that the lesion in the right lung was a squamous cell carcinoma and that that in the left lung was caused by tuberculosis. Because of the patient's age and condition, thoracotomy was not advised, and he was treated with isoniazid and streptomycin. Monthly roentgenograms of the chest revealed no significant changes. Malignant cells of the same type as before were found on repeated cytologic examinations of the sputum. The patient was given 20 mg. of nitrogen mustard on three occasions without noticeable improvement. He did poorly, had several episodes of hemoptysis and died seven months after hospitalization.

PATHOLOGIC EXAMINATION

The pleural cavities were free of fluid and the lungs were expanded. The right lung weighed 625 gm. The right upper lobe contained an irregular firm region that extended from the hilum to the apex. On cut surface it appeared as a grey-brown mottled consolidated tissue. A firm grey thrombus occluded the artery in this region. The cut surfaces of the right middle and lower lobes were red and congested and oozed fluid. The bronchi in this region were reddened and contained grey mucoid secretions. The left lung weighed 575 gm. At the apex was a cavity into which projected polypoid tumor tissue arising from the bronchus supplying that portion of the lobe. Dark red areas of soft consistency were observed on cut surfaces of the upper and lower lobes. The remainder of the parenchyma was firmer, less red and not crepitant. The hilar and mediastinal lymph nodes were dark in color and contained small scarred areas that obscured the normal structure.

Microscopic examination of sections from the apices of each lung showed infiltration by tumor tissue surrounded by areas of fibrosis and necrosis. Tissue from the right lung (Figure 2) showed papillary and glandular patterns composed of cells with hyperchromatic, pleomorphic nuclei and dense

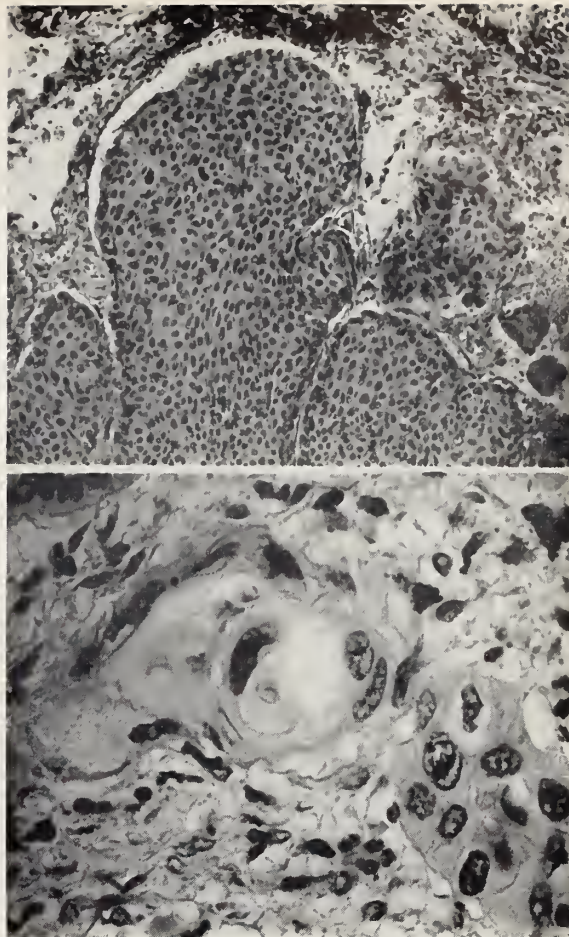


Figure 3.—*Top*: Photomicrograph from apex of left lung showing a squamous cell carcinoma ($\times 250$). *Bottom*: Photomicrograph from another portion of the tumor showing epithelial pearl formation and intercellular bridge formation ($\times 800$).

pink cytoplasm. There was mucus formation by the tumor. The tumor had involved the wall and obliterated the lumen of a large bronchus. Tissue from the left lung (Figure 3) showed malignant epithelium in sheets and strands differentiated toward the squamous cell type with some palisading at the margins and keratinization. Epithelial pearl formation and intercellular bridging were present in portions of the tumor. The nuclei were large and pleomorphic and contained irregularly clumped chromatin. The tumor supplanted the mucosa of a fairly large bronchus. Sections from both lungs showed congestion with focal edema, atelectasis and emphysema. No other tumor sites in either lung, or extrapulmonary tumor metastasis or other primary tumors, were found.

The final diagnoses were: Bronchogenic carcinoma (adenocarcinoma upper lobe of right lung, squamous cell carcinoma upper lobe of left lung); pulmonary edema and congestion; pulmonary emphysema; and thrombosis of medium-sized artery in upper lobe of right lung.

DISCUSSION

The incidence of multiple simultaneous unilateral or bilateral lung carcinoma is not known. Relatively few such instances have been reported, and some of these are doubtful because of the difficulties in distinguishing primary from metastatic lesions. Cahan and co-workers,² in a study of 1,493 patients with bronchogenic carcinoma, found 25 coexistent primary carcinomas, but no instance of double primary lung tumors. Warren and Gates¹¹ in a study of reports of multiple malignant lesions noted that the reported incidence varied from 1.84 to 3.9 per cent. Of the 1,259 cases of multiple malignant lesions cited, none were cases of double primary bronchogenic tumors. Slaughter⁹ noted only three instances of multiple lung tumors in 1,868 reported cases of multiple malignant lesions. In 234 cases of bronchogenic carcinoma, Olcott⁶ found only one instance in which presumptive evidence indicated a double primary lung carcinoma. Robinson and Jackson⁷ reported double bronchogenic carcinomas in 9 of 500 patients with bronchogenic carcinoma, the largest number reported by one group of investigators. The authors stated the number of cases in the series was too few in number to be statistically significant. McGrath and co-authors⁵ found five instances of grossly visible double tumors in the same or different lobes in 87 cases of bronchogenic carcinoma. Other reports have described double primary bronchogenic carcinomas in the same or opposite lungs.^{1,3,4,8,10}

The premortem diagnosis of bronchogenic carcinoma in the present case was made on the basis of cytologic studies of the sputum. The roentgenographic evidence of a lesion in the apex of each lung raised the possibilities that one was malignant and the other not, that one was metastatic from the other, that both were themselves metastatic from an extrapulmonary site or that one was a primary and the other metastatic from an extrapulmonary site. Despite bronchoscopic examination with attempts to obtain secretions independently from each lung, despite biopsy of the scalene lymph nodes and use of antituberculous therapy and nitrogen mustard, the location of the tumor was not known before death. At necropsy, two circumscribed and well differentiated tumors were found: An adenocarcinoma in the right lung and a squamous cell carcinoma in the left. No nearby or distant metastatic lesions from either tumor or another primary tumor were found. These findings meet two of the three criteria for the diagnosis of multiple primary tumors; while it cannot be proved, the supposition that the tumors were independent appears supportable.

The dilemma raised by lesions in both lungs in cases in which diagnosis of bronchogenic carcinoma is established is difficult to resolve. If one lesion is metastatic from the other, thoracotomy is not warranted. If only one lesion is malignant, the wrong side may be explored. Although few patients with bronchogenic carcinoma survive five years, even this

small chance for survival must not be denied a patient considered to have (but who actually does not have) a metastatic lesion.

The microscopic appearance of bronchogenic carcinomas is not uniform.^{5,6} Different cell types are often found within the primary lesion, and the cell type in the primary may differ from that in metastatic sites. This lack of uniformity may result from the coalescence of tumor from many sites.⁵ Nevertheless, a relatively well-differentiated squamous cell carcinoma would not be expected to give rise to a well-differentiated adenocarcinoma, or vice versa. It is probable that the two tumors in the present case were independent and were coincident by chance.

SUMMARY

A case in which an adenocarcinoma in one lung was found to coexist with a squamous cell carcinoma in the other lung is reported—apparently a case of double primary unrelated pulmonary malignant lesions. The report demonstrates the difficulties in determining which lung is involved when both show lesions and where the diagnosis but not the site of the bronchogenic carcinoma has been established.

6092 North Arlington Boulevard, San Pablo (Mandel).

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Whither Government?

IN October of this year the California Medical Association held its annual Conference of County Society Officers. This meeting is a means of bringing the leaders of medicine in the county societies up to date with events of the moment. It is timed to disseminate information in advance of the annual convention, so that the county society representatives may have current information on which to base any actions or proposals emanating from their own confines.

That such conferences are valuable to the county representatives was proved by the many complimentary remarks and expressions of thanks voiced by those in attendance. The audience this year included the president, president-elect and secretary of each county society, plus two or more chairmen of important committees within the county societies. The presence of a number of county representatives given opportunity to discuss the program items, assures a maximum of reporting on these topics at the home base of the participants.

Much emphasis at the conference was placed on the changing patterns of medical practice under an ever-growing participation of government in the medical care of its citizens. It was obvious to all present that government has been infiltrating the field of medical practice and assuming a constantly enlarging responsibility for the care of people at tax-paid expense.

With each new incursion into medical practice, government establishes new rules, new controls. Each in itself may be understandable and not unduly onerous but when a multitude of such controls finally faces the individual physician, the gravity of the situation becomes obvious.

Although physicians have been opposing an outright system of tax-paid government-controlled medical practice for a number of years—and opposing it successfully—the government's gnawing at the edges has not been stopped to any noticeable degree. The sole remaining question seems to be—how far will it go?

California's own example shows that the state undertook to control a portion of medical practice in 1912, when the original Industrial Accident laws were written. While these laws did not actually set the State of California up in the practice of medicine, they did prescribe the conditions under which medical services would be rendered by physicians, the manner of reporting required in such cases and, more important, the fees that would be paid for professional services.

The medical profession turned its collective back on the Industrial Accident laws when they were first passed. Physicians felt that this was a dominated type of practice which was repugnant to them and under which they did not care to devote their time or talents. Yet, enough physicians did agree to handle these industrial injuries that the laws became effective. Today, less than five decades later, practically all eligible physicians in the state handle these cases and collect as full payment a schedule of fees which is patently below the fees for comparable services for private patients.

In this instance, at least, time seems to have dulled the keen edge of opposition which militant medical men displayed at this early threat to private medical practice.

More recently the profession has been confronted with a number of additional medical care plans under which government acts as a foster father for groups of citizens.

Crippled Children's Services, Unemployment Compensation Disability, Aid to the Needy Aged, Aid to Needy Children, Medicare, Aid to Needy Blind—all these have come into today's picture. Tomorrow—the Forand Bill?

Each program brings its new regulations, Each sets its own standards of performance and its own fees. Each specifies the training of physicians eligible for participation.

Each program, it must be admitted, has attracted an adequate number of physicians to make the plan work. While there is much grumbling from the profession as a whole over the many programs, physi-

cians individually appear to accept each plan and to supply the services outlined in the legislation.

Today the weight of these accumulated plans is being felt. The camel's back is beginning to sag.

In addition, today we are witnessing an attempt, in state government at least, to standardize all professional fees to be paid by the state in programs administered by it. The simplest form of standardization, of course, is to take the lowest common denominator and apply it to the entire scale of fees and services. This is sound economics for state government but an added imposition upon the physicians whose training and skill make these programs possible and workable.

Medical leaders, those given the responsibility for trying to guide these many programs, today are faced with a single governmental force which literally demands collective bargaining. On the other hand, the medical profession as a whole is made up of individuals who are unwilling to have their bargaining done by others, even those of their own choosing. The solution to this dilemma has not yet been presented; until it is, and is accepted by the profession, there are bound to be outcries from many against the injustice or the weight of all government medical care programs.

Letters to the Editor...

Vendors of Doctor-Care

DOCTOR-CARE is the application of technical knowledge and skill to the needs of an individual by another individual who has met the standards of education specified by the state. Hospitals, medical centers, and closed panel groups operating under a trade name cannot "practice medicine." They are vendors of doctors' services.

Our state laws regulate the practice of medicine but they do not regulate the vending of doctor-care. The day has come when we must emphasize the distinction between doctor-care and medical care. All of the paramedical activities are embraced under the latter term. The confusion of thought can have serious consequences, such as furthering the aims of those who seek to make the doctor merely the technical head of a team which will be managed and exploited under lay controls.

The medical profession has a code which is intended to protect both the public and the profession against conditions prejudicial to the good and welfare of both the public and the profession. One intent of that code is to prohibit unbridled advertising as a means of promotion, such as prevails in some commercial enterprises.

The medical societies have ordained that groups of doctors are under the same ethical conduct pro-

Government, under the social philosophies which have obtained for the past quarter century, seems to be bent on providing more and more services for more and more citizens. Medical care, often deemed as essential as food, clothing and shelter, is among the things that some elements in government would have the state provide. And of late organized medicine has had considerable difficulty in combatting the emotional appeal of such proposals, for hard facts seem to get short shrift in the political sophistries of today.

One can hope for some reversal of this trend. One can dream wistfully that before long some of these plans may fall of their own weight. Such hopes, such dreams, are contrary to the history of government and of bureaucracy, a history replete with examples of government plans growing ever larger.

Despite a discouraging outlook, medicine's role today must remain as it has been in the past, namely, resistance to plans which are medically, economically or socially unsound. Win or lose, principles must be upheld and a battle waged when unsound proposals are put forth. Obviously, the medical profession will continue in this spirit. Meanwhile, it seems fair to ask—whither government?

visions as are specified for the individual. Some of our institutions have made the line between commercial and professional conduct vague, if not entirely invisible.

The doctors who permit their licensed privileges to be sold through third parties or promoted by a trade-name partnership and who profit through the vendors' promotions are violating the spirit if not the letter of the code. When will the medical profession discipline this commercialization for profit to the disadvantage of individual doctors who abide by the code faithfully?

The small closed panels justify government management and impersonalization of sick care, the necessary step to a system of state medicine. There is real danger ahead because the hospitals and Blue Cross are financially in trouble. Hospital insurance rates must go up if the hospital "per diem" cannot come down. The government has taken over the hospitals in Canada. When will they take the doctors, as has been done in England?

It can happen here—if the doctors are not alert and united in support of a free medical profession. It will be fatal to the future of our profession if doctors permit it to be thrown into a political soup kettle.

Reprinted from *New York State Journal of Medicine*, 59:2626, July 1, 1959.

California MEDICAL ASSOCIATION

Six-Year Cancer Study to Be Conducted

THE Cancer Commission of the California Medical Association has reviewed the recently announced six-year cancer study to be undertaken by the American Cancer Society, and gives its endorsement. Because physicians may be asked questions by their patients who will be involved, the Commission is outlining here the purpose and scope of the survey. The American Cancer Society's national Board of Directors, at its June 1959 meeting, approved an epidemiological research study of 500,000 families, which will include one million people, to be carried on by selected state divisions of the Society. The purpose of the study is to test many theories about the cause of cancer, with particular emphasis on environmental factors which may lead to the disease. The following are a few of the important questions on which it is hoped that valid data can be secured: Relationship of occupational hazards to cancer, family tendencies toward cancer, relationship between cancer and other diseases, relationship between breast feeding and breast cancer, relationship of air pollution to cancer, relationship between diet and cancer, the effect of quitting smoking and of the use of filters in relation to the development of lung cancer.

The study is to be conducted by volunteer researchers, each of whom will interview approximately seven families in which there is at least one member 45 years or older. Other adults over 30 years of age in each of these families will be asked to fill out a questionnaire. There will be an annual follow-up for a period of six years, and in every second year a supplementary questionnaire will be required. As in the case of the smoking study, vital statistics records will be checked annually to determine the cause of death of individuals who die during the study.

The California Division is among the 20 divisions which are being asked to participate. Because of its size, California's participation is crucial to the study. The suggested quota for California is 65,000 families, or approximately 150,000 adult individuals.

It is anticipated that the survey will have gotten

under way in most California communities by the end of this year.

The questionnaire being used for this survey is very extensive and covers a wide range of activities relating to the individual's living habits including diet, exercise and smoking. Some of the questions are quite personal but extreme caution will be exercised in maintaining the replies in complete confidence at the local, state and national levels.

The volunteers conducting this survey will be specially trained. However, they will not actually complete the questionnaire. The individual contacted by the volunteer will, himself, complete the questionnaire and place it in a sealed envelope which will not be opened until it reaches the statistical section of the American Cancer Society in New York City.

Each county medical society will be supplied a copy of the questionnaire and other pertinent information. Each local branch of the American Cancer Society likewise has detailed information regarding the survey. Each physician is urged to contact either of the above or the Cancer Commission of the California Medical Association (693 Sutter Street, San Francisco 2) if more information is desired.

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— In Memoriam —

COUEY, ELMER J. Died in Santa Ana, October 25, 1959, aged 82. Graduate of College of Physicians and Surgeons of San Francisco, 1900. Licensed in California in 1900. Doctor Couey was a member of the Fresno County Medical Society, a life member of the California Medical Association and a member of the American Medical Association.



DANSKY, ABRAM EUGENE. Died in Berkeley, November 1, 1959, aged 39, of myocardial infarction. Graduate of University of Nebraska College of Medicine, Omaha, 1945. Licensed in California in 1950. Doctor Dansky was a member of the Alameda-Contra Costa County Medical Association.



HALEY, PHILIP STEPHEN. Died in San Jose, October 11, 1959, aged 59, of injuries from an auto collision. Graduate of St. Louis University School of Medicine, Missouri, 1929. Licensed in California in 1929. Doctor Haley was a member of the Santa Clara County Medical Society.



JACKEMY, EDWARD JOSEPH. Died in Los Gatos, October 13, 1959, aged 53. Graduate of University California School of Medicine, Berkeley-San Francisco, 1932. Licensed in California in 1933. Doctor Jackemy was a member of the Santa Clara County Medical Society.

JACOBS, BENJAMIN C. Died July 18, 1959, aged 62. Graduate of Cornell University Medical College, New York, N. Y., 1923. Licensed in California in 1942. Doctor Jacobs was a member of the Los Angeles County Medical Association.



PALMER, EDWIN O. Died in Hollywood, October 19, 1959, aged 87. Graduate of Columbia University College of Physicians and Surgeons, New York, N. Y., 1896. Licensed in California in 1900. Doctor Palmer was a member of the Los Angeles County Medical Association.



SHUMATE, JAMES WILLIAM. Died in Santa Cruz, October 11, 1959, aged 56. Graduate of University of Arkansas School of Medicine, Little Rock, 1929. Licensed in California in 1937. Doctor Shumate was a member of the Santa Cruz County Medical Society.



WATSON, TOLBERT. Died July 30, 1959, aged 79. Graduate of University of Minnesota Medical School, Minneapolis, 1908. Licensed in California in 1925. Doctor Watson was a retired member of the Santa Clara County Medical Society and the California Medical Association and an associate member of the American Medical Association.

Program

FOR

C. M. A. Annual Session

February 21*-24

LOS ANGELES

Follows page 384 of this edition



*FIRST MEETING OF HOUSE OF DELEGATES WILL BE HELD
SATURDAY, FEBRUARY 20, BEGINNING AT 7:30 P.M.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

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†The above quoted rates are existing rates but are subject to any change which may be made in the future.

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693 Sutter Street

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3

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During

C.M.A. ANNUAL SESSION

February 21 to 23, 1960 • Los Angeles

THE CALIFORNIA MEDICAL ASSOCIATION in cooperation with the Medical Schools of UNIVERSITY OF CALIFORNIA, LOS ANGELES, UNIVERSITY OF SOUTHERN CALIFORNIA and COLLEGE OF MEDICAL EVANGELISTS, will present three Postgraduate Courses during the Annual Session in February. These courses will be clinically oriented and will include case presentations and closed circuit television.

Choose the course which most interests you, follow the course, and the 1960 session will send you back to your practice stimulated and refreshed.

Look for the program giving complete details which will arrive in your office in January.

• By UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE, LOS ANGELES:

INFECTIOUS DISEASES—9 hours

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: February 21 at Chapman Park Hotel, February 22 and 23 at Ambassador Hotel, Los Angeles.

• By UNIVERSITY OF SOUTHERN CALIFORNIA:

CLINICAL ENDOCRINOLOGY—9 hours

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: February 21 at Los Angeles County Hospital, February 22 and 23 at Ambassador Hotel, Los Angeles.

• By COLLEGE OF MEDICAL EVANGELISTS:

MINOR SURGERY IN THE OFFICE—9 hours

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 1960—9:00 a.m. to 12:00 noon.

Place: White Memorial Hospital, Los Angeles.

Tuition Fee: \$25.00 for each course

----- APPLICATION FOR ENROLLMENT -----

Mail to: POSTGRADUATE ACTIVITIES, CALIFORNIA MEDICAL ASSOCIATION
2975 Wilshire Boulevard, Los Angeles 5, California

With check or money order in the amount of \$25.00 made payable to CALIFORNIA MEDICAL ASSOCIATION

Name _____

Address _____

I am in General Practice _____ I limit my practice to _____

Medical School Attended _____ Year of Graduation _____

Please enroll me in the course indicated by ✓.

- ☐ 1. Minor Surgery in the Office (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 2. Infectious Diseases (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 3. Clinical Endocrinology (9-hour course, Sunday, Monday and Tuesday mornings)

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

THE INFLUENZA surveillance program for the 1959-60 season was activated November 1. It is similar to the one carried out last year and is designed to provide the department with rapid information on the fluctuation in the incidence of influenza as it occurs.

Several indicators are being used to detect any upswing, such as school absenteeism, numbers of deaths from pneumonia and influenza, and laboratory reports.

Eight local health departments are participating in the network and will report an unusual accumulation of respiratory disease within their jurisdiction.

No widespread attacks are anticipated, although localized outbreaks undoubtedly will occur. The predominant type of influenza this fall and winter is expected to be A-2, or Asian strain.

Commercially available polyvalent influenza vaccine contains immunizing materials against the important strains, including the Asian. Its use is recommended by the department for persons for whom onset of influenza might represent an added health risk, such as persons with cardiovascular or pulmonary conditions, persons over age 55 with chronic illness of any type, and pregnant women.

The number of paralytic poliomyelitis cases in California is within 30 of doubling the number reported last year, with young adults and youngsters bearing the brunt of the attack.

For this year 12 deaths due to poliomyelitis have been recorded. Only one of the 12 who died had had three doses of Salk vaccine, and even in that person they apparently were poorly spaced, probably a year having elapsed between doses.

The vaccine supply situation has eased considerably as compared to the summer months, and there seems to be no shortage of vaccine for either commercial or public agency use.

While only one case of western equine encephalitis has been reported so far this year, there have been 34 laboratory proved cases of St. Louis encephalitis, with one death. This is the highest incidence of this disease since 1954.

The majority of the cases occurred in the northern part of the Central Valley, with a few scattered cases

reported from the San Joaquin and Imperial valleys. This corresponds well to the known endemic area and no case has been proved to have originated outside the endemic area.

Preliminary steps have been completed for a pilot study of the health status of Indians and their utilization of medical facilities in the ten counties which contract with this department for services.

The Los Angeles County Health Department has been reporting an unnamed illness in school children during the past several weeks. This illness has a sudden onset characterized by frontal headache and nausea. A small proportion of those affected reported abdominal pain with cramps, vomiting and/or diarrhea. A few had low grade fever. None reported dizziness or rashes. The duration of symptoms varied from three days to a week, and there was a tendency to relapse.

Reports have been received mainly from junior and senior high schools, but cases have also been seen in the elementary schools. In one area the teachers were similarly affected.

The illness is reported to spread rapidly when once introduced into a classroom, and attack rates for total school populations vary from approximately 10 to 30 per cent; in single classrooms up to 50 per cent.

Laboratory studies on blood and stool specimens are being conducted by the department's Viral and Rickettsial Disease Laboratory. So far the disease seems to be limited to Los Angeles County.

The importance of occupational health services is reflected in the number of local health departments in California which now are conducting, or starting, such programs. Thirty-seven full-time and two part-time local health departments report they provide occupational health services or are drafting definite plans to do so. These jurisdictions cover 90 per cent of the state's population and about 90 per cent of the labor force. Ten years ago occupational health programs existed in only Los Angeles City and County.

The department's Bureau of Crippled Children Services is now providing medical care to children

with orthopedic handicaps resulting from poliomyelitis. Children with poliomyelitis whose condition is in the acute stage, however, are not eligible for care through the program.

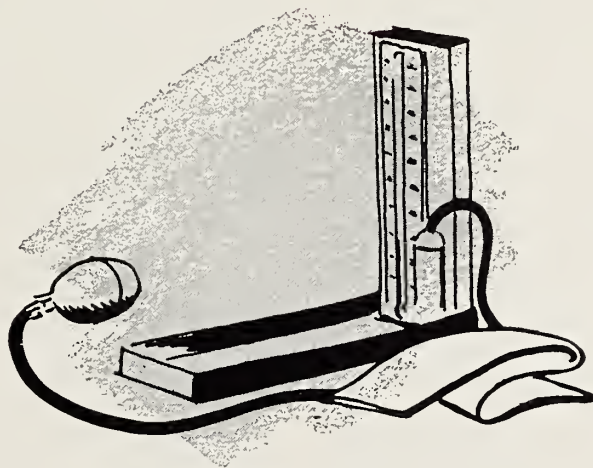
Because Crippled Children Services is tightly budgeted this year, care can be given only in cases of severe hardship. Next year, and in future years, the bureau will budget for the care of children with orthopedic handicaps resulting from poliomyelitis, as it does for similar handicaps suffered from other causes.

The Berkeley City Health Department has reported a food poisoning outbreak due to *Clostridium perfringens*, the first time this organism has been

known to be associated with food poisoning in California.

The epidemic occurred in Berkeley where 40 people attended a reunion dinner in a private home. Guests came from eight counties. Of the 40 persons present, 32 have been interviewed and 21 reported being ill. Symptoms were mild, usually stomach cramps and diarrhea—no vomiting or fever.

The food served was purchased from a commercial caterer, taken to the home and eaten without refrigeration or adequate reheating. Samples of the food were examined in the Division of Laboratories and the organism was isolated from roast beef. All of those who became ill had eaten the meat.





WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION

The following remarks are excerpts from an address by T. Eric Reyolds, M.D., President of the California Medical Association, at a meeting of the Woman's Auxiliary to the California Medical Association, Santa Barbara, September, 1959

I HAVE BEEN ASKED to comment on the hearings held on the Forand Bill, which I had the opportunity to attend. These hearings were rather impressive although it was probably a rehash of the material that had been presented at the hearings a year before. One had the impression from listening to the witnesses from both sides and judging from the questions asked by the various members of Congress, that there were three general points of view on the parts of the Congressmen: Those who were very much in favor of the program, those who were very definitely opposed, and the majority who either chose not to let it be known how they felt or were truly dubious about it. Furthermore, one felt that many of this group would welcome legitimate reasons for not having to commit the government to this expensive and experimental program. The only way that they could feel justified in this course of action would be to be able to see substantial progress made toward the solution of the problem. I think this should be the keynote of what we need to do.

We were buying a short amount of time in which to prepare for further, and perhaps more pressing, encounters.

I think that nearly everyone would agree that there is a problem with respect to the care of the aged people in our population and that it has a political as well as a socio-economic and medical aspect. How to solve it is another matter.

We are in the midst of a very significant population explosion. It is estimated that the world population will increase from 2.8 billion to 3.5 billion by the turn of the century. That means a net gain of about 5,000 people per hour. The population of California has increased 15-fold since the turn of the last century and life expectancy in general has increased from about 47 years to about 70 years for a composite of both sexes and the percentage of those people over the age of 65 has nearly doubled since 1900 and the curve is still tending upward. If the keys to arterial degeneration and malignancy are found, the curve will rise much more steeply.

In the problem of an aging population we think that the medical need, especially where it requires

complicated surgical operation with hospitalization, is the least "unmet" of any of its aspects. The biggest part of the problem is entirely outside of the scope of activities contemplated by Forand-type legislation. Yet, if this contemplated legislation passes it would cost perhaps a billion and a half or two billion dollars annually. One would not balk at the cost if this were actually what is needed to correct this situation. Perhaps at this point it would be best if I quoted from some remarks that I made before the Western Branch of the American Public Health Association at their meeting in San Francisco of June 1, 1959.

"When we use the term *aged*, by definition we mean those 65 or older. Actually, no such arbitrary dividing line is sensible from a clinical point of view; for, as we all know, chronological and physiological age differ widely in different people. However, for statistical and actuarial purposes, we have to accept some birthday as an end point (or should I say beginning point?), so it may as well be the 65th birthday.

"Management of geriatric disease is often made more difficult because so many oldsters do not have a clear understanding of their medical problems for various reasons such as education, insight, forgetfulness, childishness and general lack of a realistic approach to the symptoms of disease. Many simply do not accept their age and its implications. So one finds them 'shopping around'—often to quacks and soothsayers—with symptoms that have been explained by their physicians as irremediable, except for palliation. This may account for the fact that far too many physicians are unhappy with older patients and seem to protest the various insurance systems which may lead them to doctors' offices. This is indeed unfortunate but I fear it is true.

"This age group has a high incidence of morbidity at a time when economic resources, or at least money income, are the lowest. As time goes on, more and more older people should come under arrangements for paid-up insurance—extended benefits and such devices; but in the meantime, some form of subsidy may have to fill part of the gap.

It is to be hoped that this can be done without the need for a colossal self-perpetuating bureau to be formed where administrative red-tape tends to become the tail that wags the dog. Perhaps the quality of medical care is high in some of our veterans' facilities, and 'old soldiers' homes,' etc., but time and efficiency certainly mean nothing. Neither, it seems, does expense to the taxpayer.

"The employment and extension of visiting nursing services, better nursing homes, convalescent hospitals, home-makers services, 'meals-on-wheels' and such things, need to be fostered. Rehabilitation, as far as it can apply to the older age group, is highly desirable.

"One thing is certain: Almost every case has to be individualized and the patient dealt with according to circumstances of (1) family situation, (2) economic status, (3) temperament, (4) vigor, and (5) mentality. Certainly just putting people under custodial care with many others, often worse off, tends to undermine the mental and emotional stamina of many oldsters to the point that they become hopelessly passive and dependent. Whereas such a simple expedient sometimes as an arm to lean on while an older person takes a short walk, perhaps a visit to a friend or relative, or a visit to a day-home or an occupational center, might keep this same individual active and alert.

"Changes in our family living have reduced both the ability and the willingness of children to provide for older relatives. Smaller houses, the migration to the suburbs, the tax structure, inflation and installment buying of mass produced goods have conspired to make this virtually impossible. The younger relatives themselves are mostly living on next week's paycheck. Here is a real opportunity for the physician to practice preventive medicine by preparing his younger and middle-aged patients of today for tomorrow's older age. A serious talk to younger patients about the development of habits of mind as well as hobbies and games may be even more important than a perfunctory glance through

a fluoroscopic screen, on a periodic examination. Preparation, while still young, for the stresses and strains of leisure, is possibly the greatest need.

"There is a lot more to all this than the passing of a law, the creating of a bureau and the spending of public money. As was said before, the medical problems of the aged are manifold and a large part of this is a family and cultural responsibility. Physicians, I believe, have a social responsibility here because in a large sense, medicine created the problem, largely reducing infant mortality and making it possible for so many to live into this later period of life. When the keys to malignancy and vascular degeneration have been found, there will probably be much more of this problem. But is it enough merely to stay alive and not to 'live'? Most of us, if we could have our choice, would not think so. Here I think are some of the most urgent needs in the medical care of the aging population. By thought, study and effort, many of them can be resolved."

Now, how about the Auxiliary? Your help in much of this can be invaluable because it seems to me that the women of the Auxiliary can act as a focal point for rallying community action in such matters as having information centers and sparking visiting nurse services, homemaker services, chronic disease centers, rehabilitation activities, recreational and vocational activities and many others that can be integrated with the general social responsibilities of a democratic society. This, of course, needs to be done without attempting to usurp the activities of other groups or without intruding or stepping on sensitive toes, but I feel quite certain that with the finesse you women have demonstrated in the past, you will find that you will be very welcome in the circles which can implement some of these needed programs and facilities.

MRS. THEODORE A. POSKA

*President, Woman's Auxiliary to the
California Medical Association*



NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Announcement of the opening of the first East Bay diagnostic center for children with neurologic disorders, at Children's Hospital of the East Bay, was made by the hospital recently. The center will be operated on an outpatient basis.

The coordinator of the new service, a pediatrician who is also a neurologist, will make an initial evaluation and then refer the patient to a diagnostic team of specialists in various fields.

Regularly scheduled meetings of the diagnostic team will be integrated with a teaching program in children's neurology. Resident physicians now training at Children's Hospital of the East Bay will attend conferences and assist in the diagnostic workups. Private physicians may refer patients to the neurological team, the announcement said, and such patients will remain under the control of the private physician if he wishes.

The neurologic diagnostic team has been approved by the Crippled Children Services of the State of California Department of Public Health. Crippled Children Services will pay for the services of the diagnostic team in cases where eligibility requirements are met.

LOS ANGELES

In recognition of need for advancement of programs in cardiac rehabilitation, the Los Angeles County Heart Association recently allotted \$2,500 in support of the Homemaker Service of Los Angeles Region.

Dr. Walter S. Thompson, Jr., Pasadena, president of the Association, presented a check to Mrs. Richard H. Davis of Park LaBrea, president of the Homemaker Service agency.

The Homemaker Service aids children, convalescents, the elderly and ill by providing a temporary homemaker in time of family crisis.

Since some families cannot pay full cost of the home-help service, the agency must depend for cooperative funds upon the community and the California State Department of Social Welfare. The Los Angeles County Heart Association is one of 21 supporting health and welfare agencies.

* * *

Approval by the Public Health Service of a \$500,000 grant for a new research center at Cedars of Lebanon Hospital, Los Angeles, has been announced by Dr. Leo G. Rigler, the hospital's executive director.

The grant, recommended to the USPHS by the National Advisory Council on Health Research Facilities, will be matched by funds raised by Cedars in a community-wide drive. It is estimated that construction and equipment of the new facilities will cost in excess of \$1,000,000.

Cedars' present research program, conducted through its Institute for Medical Research, encompasses more than 100 investigative studies annually.

* * *

The American Institute of Ultrasonics in Medicine has announced that the new president is Dr. David Rubin, of Los Angeles. Dr. Rubin, Dr. John Aldes of Los Angeles and Dr. William Bierman of San Francisco are members of the executive board.

SAN BENITO

An exhibit on cancer quackery, sponsored jointly by the Cancer Commission of the California Medical Association, the California State Department of Public Health and the California Division of the American Cancer Society was awarded the blue ribbon for educational exhibits at the San Benito County Fair, held in October.

The exhibit includes a display of specious "cancer cures" and cancer diagnostic devices that have been confiscated in court actions against quacks.

SAN FRANCISCO

The Board of Chancellors of the American College of Radiology has voted to bestow the organization's gold medal upon Dr. L. Henry Garland of San Francisco for "distinguished and extraordinary service to the American College of Radiology and the profession for which it stands." Presentation of the medal will take place February 5 at a meeting of the College in New Orleans.

GENERAL

Dr. Malcolm H. Merrill, director of public health, California State Department of Public Health since 1954, has been reappointed to the post for a four-year term beginning January 1, 1960, by Governor Edmund G. Brown.

Dr. Merrill was moved up from assistant director by Governor Goodwin Knight when Dr. Wilton Halverson resigned and became associate dean of the School of Public Health at UCLA. In 1956 he was appointed to a four-year term which is now nearing its end.

Dr. Merrill was installed as president of the American Public Health Association during its 87th annual meeting, October 19 to 23, in Atlantic City. Dr. Charles E. Smith, dean of the School of Public Health of the University of California, Berkeley, was elected to a three-year term on the executive board.

* * *

Medical students, residents and interns have been invited to prepare scientific exhibits to be displayed at the tenth annual convention of the Student American Medical Association in Los Angeles, May 4 to 8, 1960.

The three exhibits judged most outstanding in both the student and resident-intern categories will win SAMA-Lakeside Awards. The top winners in each category will be further honored by having their exhibits featured at the Scientific Exhibit Assembly of the American Medical Association during the annual A.M.A. convention in Miami Beach, Florida, in June 1960.

In addition to a prize of \$500, the top winners will receive an expense-free trip to the A.M.A. convention. Second and third prize winners will receive \$250 and \$100, respectively.

Applications for the 1960 SAMA-Lakeside Awards should be sent to the executive director, SAMA, 430 North Michigan Ave., Chicago, Illinois. Deadline for applications is January 1, 1960. Notification of accepted exhibits will be made February 1, 1960. Applications should contain the title of the exhibit, a brief description of its physical dimensions and a 250-300 word report explaining its purpose. Applicants are advised to first check their subject matter with a faculty member or chief.

* * *

The National Foundation has announced the availability of fellowships for clinical study in arthritis and related diseases for physicians who have an interest in rheumatic diseases and who intend to apply their knowledge of these diseases to clinical service, teaching, or research. Only physi-

cians licensed or eligible for licensure to practice in the United States and who have had at least two years of specialty training acceptable to the appropriate American Board (or equivalent training) are eligible. All applicants must be citizens of the United States.

The candidates should propose a program of full time study in a hospital—preferably university-affiliated—which offers a well developed program in arthritis and related diseases. The major portion of his time should be spent in clinical service, but a small amount may be devoted to research and teaching. Fellowships are awarded for a minimum of one year but may be renewed upon approval by the National Foundation's Clinical Fellowship Committee. Financial support for the Fellow is \$4,500 a year with \$540 allowed annually for each dependent. Annual increases of \$480.00 are ordinarily granted. Under unusual circumstances higher stipends may be permitted. For a full academic program, complete tuition and fees are paid; for other programs, a sum not to exceed \$1,250.00 including tuition may be arranged. Applications must be received by February 1 for consideration approximately May 1, 1960, by August 1 for consideration by November 1, 1960 and November 1 for consideration by February 1, 1961. Further information may be obtained from Division of Scholarships and Fellowships, Department of Professional Education, The National Foundation, 800 Second Street, New York 17, New York.

* * *

The U. S. Public Health Service has issued revised copies of the booklet **Immunization Information** for International Travel, and has announced that previous issues of the booklet and its supplement should be destroyed.

Additional copies of the new booklet may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 30 cents a copy.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

CLINICAL POSTGRADUATE PROGRAM—MEXICO CITY, IN COOPERATION WITH THE NATIONAL SCHOOL OF MEDICINE, MEXICO CITY. Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. February 25 through March 5, 1960.

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

* Fees to be announced.

† Dates, fees and hours to be announced.

Geriatrics in Clinical Practice. Saturday and Sunday, March 19 and 20, 12 hours.*

Inhalation Therapy and Office Proctology. April.†
Plastic Surgery of the Eye. May.†

Clinical Laboratory Interpretation. Thursday, Friday and Saturday, June 23, 24 and 25. Eighteen hours.*

Management of Medical Emergencies. Friday and Saturday, July 15 and 16, 12 hours.*

General Pediatrics. Sunday through Wednesday, July 17 through 20. Lake Arrowhead, University of California Conference Center. Fifteen hours.*

Advance Seminar in Internal Medicine. Wednesday through Sunday, July 20 through 24. University of California Conference Center, Lake Arrowhead. Eighteen hours.*

Dermatology for General Practitioners. Monday and Tuesday, July 25 and 26. Twelve hours.*

Anesthesiology. Wednesday, Thursday and Friday, August 3, 4 and 5. Eighteen hours.*

The Multiple Injury Patient. Thursday, Friday and Saturday, August 11, 12 and 13. Eighteen hours.*

For Ancillary Personnel

Practical Clinical Chemistry for Laboratory Technologists — Advanced. Wednesdays, January 13 through March 2. Twenty-four hours. Fee: \$35.00, Lecture and Lab. \$20.00, Lecture only.

Vision Screening Techniques in the Classroom. Tuesdays, February 9 through May 24. Thirty hours. Fee: \$25.00.

Prevention and Control of Disease. Wednesdays, February 10 through June 15. Forty-five hours. Fee: \$35.00.

Medical Terminology—Advanced. Tuesdays, February 16 through June 21. Forty-five hours. Fee: \$35.00.

Beginning Medical Terminology. Wednesdays, February 17 through June 22. Forty-five hours. Fee: \$35.00.

Pathological Physiology in Physical Treatment Procedures. Mondays, February 29 through April 25. Sixteen hours. Fee: \$30.00.

Workshop in Practical Tuberculous Bacteriology. Saturday, March 5. Eight hours. Fee: \$5.00.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Radiological Physics (limited to 12). Every other Monday evening, January 12 through April 29. For Residents. Fee: \$50.00.

Man and His Environment—The Air He Breathes. Saturday through Monday, January 16 through 18. Twenty-one hours. Fee: \$40.00.

Common and Uncommon Drugs for Children. Thursday through Saturday, January 21 through 23. Twenty-one hours. Fee: \$50.00.

Seminars on the Psychological Aspects of Medical Practice—Series II. Every other Thursday evening, February 4 through May 19. Alameda-Contra Costa Medical Association Building, Oakland. Fee: \$40.00.

Course for Physicians in General Practice (Mt. Zion Hospital, San Francisco). Monday through Saturday, March 7 through 12. Thirty-eight hours.*

Diagnostic Radiology. Wednesday through Sunday, March 16 through 20. Thirty-five hours.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

For Ancillary Personnel

Dermatology for Pharmacists. Thursday and Friday, January 21 and 22. Fourteen hours. Fee: \$30.00.

Nursing and People (limited to 25). Monday through Friday, January 25 through February 5. Thirty hours. Fee: \$30.00.

Team Nursing. Tuesdays, February 9 through March 29. Sixteen hours. Fee: \$15.00.

Advances in Psychiatric Nursing: Section I.—All registered nurses, Wednesday, February 24 through April 13. Sixteen hours. Fee: \$30.00.

Advances in Psychiatric Nursing: Section II.—Nurses who have had training and practice in Psychiatric Nursing. Thursdays, February 25 through April 14. Sixteen hours. Fee: \$30.00.

Rehabilitation Nursing. Monday through Friday, April 11 through 29. Fairmont Hospital, San Leandro.*

Nursing Care of Mothers and Children. Tuesdays, April 19 through June 7, Highland Hospital, Oakland. Sixteen hours. Fee: \$25.00.

Nursing Care of Medical-Surgical Patients. Thursdays, April 21 through June 9, Highland Hospital, Oakland. Sixteen hours. Fee: \$25.00.

Continuing Education Conference. Monday through Friday, June 13 through 17.*

Medical Health Principles in Baccalaureate Nursing Education. June 20 through July 29.*

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOnTrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, Stanford Hospital, Clay and Webster Streets, San Francisco.

For information contact: Dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$75.00 including lunch.

Bedside Cardiology. Thursdays, February 4 through April 21. Twenty-four hours. Fee: \$65.00.

Therapeutic Interviewing. Thursdays, February 11 through April 28. Twenty-four hours. Fee: \$100.00.

Symposium on Hypertension. Friday, March 11. Seven hours. Fee: \$7.50.

Dermatology Clinic, One-Day Symposium. Thursday, March 24. Seven hours. Fee: \$25.00.

Funduscopy in Internal Medicine. Every other Tuesday, April 5 through June 14. Twelve hours. Fee: \$37.50.

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16. Twenty hours. Fee: \$100.00.

Practical Diagnosis and Management of Cardiovascular Diseases. Dates to be announced. Twenty-one hours. Fee: \$75.00.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

Diseases of the Chest: Two and four-week Traineeships in cooperation with the Los Angeles County Hospital. Dates as arranged.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Surgical Anatomy: Thorax, Abdomen, Pelvis. January 4 through April 13. 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1, 63 hours. Fee: \$75.00.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. *Contact:* Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

* Fees to be announced.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, March 7 through 11. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

ANNUAL SESSION POSTGRADUATE COURSES

Infectious Diseases. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9:00 to 12:00 noon. February 21 at Chapman Park Hotel, February 22 and 23 at Ambassador Hotel, Los Angeles. Program by University of California School of Medicine, Los Angeles.

Clinical Endocrinology. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9 to 12 noon. February 21 at Los Angeles County Hospital, February 22 and 23 at Ambassador Hotel. Program by University of Southern California School of Medicine.

Minor Surgery. 9 hours. Sunday, Monday and Tuesday, February 21, 22 and 23, 9 to 12 noon. All sessions at White Memorial Hospital, Los Angeles. Program by College of Medical Evangelists.

POSTGRADUATE INSTITUTES—1960 (Tenth Anniversary Year)

West Coast Counties in cooperation with University of California, San Francisco, February 4 and 5. Del Monte Lodge, Pebble Beach. *Chairman:* Robert A. Helfrich, M.D., 440 E. Romie Lane, Salinas.

North Coast Counties in cooperation with College of Medical Evangelists, March 31 and April 1. Flamingo Hotel, Santa Rosa. *Chairman:* H. Ward Wick, M.D., 858 Fourth Street, Santa Rosa.

Southern Counties in cooperation with Stanford University School of Medicine, April 21 and 22. Palm Springs Riviera. *Chairman:* Robert M. Zweig, M.D., 7004 Magnolia, Riverside.

San Joaquin Valley Counties in cooperation with University of Southern California School of Medicine, April 28 and 29. Ahwahnee Hotel, Yosemite. *Chairman:* Campbell H. Covington, M.D., 2057 High Street, Selma.

Sacramento Valley Counties in cooperation with UCLA School of Medicine, July 1 and 2. Tahoe Tavern, Lake Tahoe. *Chairman:* Herbert W. Korngold, M.D., 1217 30th Street, Sacramento.

Contact: One of the chairmen listed above, or Postgraduate Activities Office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

JANUARY 1960 MEETINGS

MARIN COUNTY HEART ASSOCIATION Cardiac Resuscitation. Each Saturday morning 8:30 to 12 noon, January 9 through February. Marin General Hospital. *Contact:* Jean M. Brown, executive director, 2044 Fourth Street, San Rafael. GLenwood 4-7347.

LOS ANGELES COUNTY HEART ASSOCIATION Fourth Annual Midwinter Symposium. January 13, 9:00 a.m. Statler-Hilton Hotel. *Contact:* Walter S. Graf, M.D., Chairman, Professional Symposium Committee, Los Angeles County Heart Association, 660 So. Western Avenue, Los Angeles 5.

THE RESEARCH STUDY CLUB OF LOS ANGELES Twenty-Ninth Annual Mid-Winter Convention in Ophthalmology and Otolaryngology. January 18 through 22. Ambassador Hotel, Los Angeles. *Contact:* Norman Jesberg, M.D., treasurer, 500 South Lucas Avenue, Los Angeles 17.

DIABETES AND BASIC METABOLIC PROBLEMS Eighth Postgraduate Course. January 20 through 22. Ambassador Hotel, Los Angeles. *Contact:* American Diabetes Association, Inc., 1 East 45th Street, New York 17, New York.

ORANGE COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease. January 23, 8:30 a.m. to 5:30 p.m. Gourmet Restaurant, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, Executive Director, P. O. Box 1704, Santa Ana, KImberly 7-5976.

WESTERN ASSOCIATION OF PHYSICIANS. January 27 through 29. Carmel, California. *Contact:* Wade Volwiler, M.D., secretary, Department of Medicine, University of Washington, Seattle 5.

WESTERN SOCIETY FOR CLINICAL RESEARCH. January 28 through 30. Carmel-by-the-Sea. *Contact:* William N. Valentine, M.D., secretary, UCLA Medical Center, Department of Medicine, Los Angeles 24.

FRESNO COUNTY HEART ASSOCIATION Central California Eighth Annual Physicians Symposium. January 29, 8:30 a.m. to 5:30 p.m. Elks Club, Kings Canyon Road, Fresno. *Contact:* Max S. Millar, M.D., Chairman, Professional Services Committee, Fresno County Heart Association, 329 No. Van Ness, Fresno 1.

FEBRUARY MEETINGS

CONTRA COSTA COUNTY HEART ASSOCIATION Postgraduate Course for Physicians. Eight 2-hour weekly meetings. Monday, 8 to 10 p.m., beginning February 1. Contra Costa County Hospital. *Contact:* (Mrs.) Loyse C. Casebolt, executive director, 2030 N. Main Street, Walnut Creek.

BUTTE-GLENN COUNTIES HEART ASSOCIATION Cardiovascular Disease Symposium. February 3. Chico Elks Lodge, 9 a.m. to 5 p.m. *Contact:* Nathan C. Hanson, executive director, 310 Main Street, Room 215, Chico.

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7. Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

LOS ANGELES OBSTETRICAL AND GYNECOLOGICAL SOCIETY, Forum for the younger specialists and residents. February 6 and 7, Ambassador Hotel, Los Angeles. *Contact:* Kenneth F. Morgan, M.D., Suite 910, 2010 Wilshire Blvd., Los Angeles 57.

OBSTETRICAL AND GYNECOLOGICAL ASSEMBLY OF SOUTHERN CALIFORNIA 15th Annual Mid-Winter Clinical Assembly. February 8 through 12. Ambassador Hotel, Los Angeles. For information write Frances W. Shippey, P. O. Box 57118, Flint Station, Los Angeles 57.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 693 Sutter Street, San Francisco 2; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting. February 21 through 24. Palm Springs. *Contact:* Carleton Mathewson, M.D., professor of surgery, Stanford Hospital, San Francisco.

MARCH MEETINGS

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

PIONEERS MEMORIAL HOSPITAL MEDICAL STAFF in association with the University of Oklahoma School of Medicine, Tenth Annual Postgraduate Assembly. March 18 and 19. Pioneers Memorial Hospital, Brawley. *Contact:* George C. Holleran, M.D., program chairman, P. O. Box 159, Brawley.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

APRIL MEETINGS

AMERICAN SOCIETY OF INTERNAL MEDICINE. April 1 through 3. Mark Hopkins Hotel, San Francisco. *Contact:* Mr. Robert L. Richards, executive director, 350 Post Street, San Francisco 8.

AMERICAN COLLEGE OF PHYSICIANS Annual Meeting, April 4 through 9. Mark Hopkins and Fairmont Hotels, San Francisco. *Contact:* E. R. Loveland, executive secretary, 4200 Pine Street, Philadelphia 4.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION Annual Convention. April 23 and 24. Claremont Hotel, Berkeley. *Contact:* Mrs. Anne Reece, President CMAA, 1837 So. Indiana St., Porterville, California.

HAWAII MEDICAL ASSOCIATION Annual Meeting. April 28 through May 1. *Contact:* Miss Lee McCaslin, executive secretary, 510 S. Beretania, Honolulu 13.

MAY MEETINGS

PAN AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11. Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long Beach. May 4. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

VALLEY CHILDREN'S HOSPITAL Spring Clinics. May 5 through 7. Roosevelt High School auditorium, Fresno. *Contact:* Valley Children's Hospital, Shields and Millbrook Avenues, Fresno.

NEVADA ACADEMY OF GENERAL PRACTICE 1960 Annual Assembly. May 12 through 14. Riverside Hotel, Reno, Nevada. Scientific program by University of California School of Medicine. *Contact:* Roy M. Peters, M.D., general chairman, 475 So. Arlington, Reno, Nevada.

NATIONAL TUBERCULOSIS ASSOCIATION—AMERICAN TRUDEAU SOCIETY Annual Meeting. May 16 through 19. Statler Hilton and Biltmore Hotels, Los Angeles. *Contact:* Mr. Sherman Asche, general chairman, Annual Meeting Committee, P. O. Box 4037, Santa Barbara.

AMERICAN COLLEGE OF NUTRITION 1960 Annual Convention. May 20 through 22. Huntington Sheraton Hotel, Pasadena. *Contact:* Donald B. Haynie, executive secretary, 10651 West Pico Blvd., Los Angeles 64.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 23 through 25. Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

FALL 1960 MEETINGS

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress. embracing all Surgical Specialties. September 28 through October 5. Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building. Honolulu 13.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION combined Meeting with 4th Western Industrial Health Conference. October 7 through 9. Jack Tar Hotel, San Francisco. *Contact:* Vern G. Ghormley, M.D., president, 3032 Tulare Street, Fresno 21.



CALIFORNIA
MEDICAL
ASSOCIATION

89th
Annual Session



Scientific Sessions

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Postgraduate Courses

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*Meetings of the
House of Delegates*

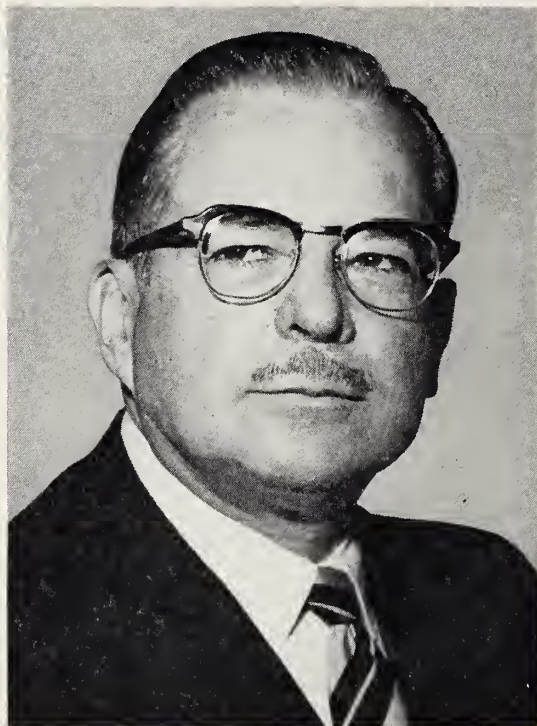
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LOS ANGELES

February 21 to 24, 1960



T. ERIC REYNOLDS
President



PAUL D. FOSTER
President-Elect

Scientific Program

CALIFORNIA
MEDICAL
ASSOCIATION

*Eighty-ninth
Annual Session*

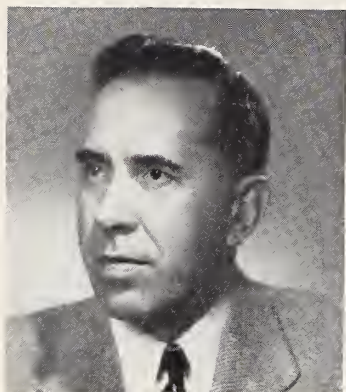
Ambassador Hotel
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LAUREN V. ACKERMAN



OLIVER COPE



ALBERT SEGALOFF



WM. BARRY WOOD, JR.

Guest Speakers

LAUREN V. ACKERMAN, M.D., St. Louis, Missouri—Professor of Surgical Pathology and Pathology, Washington University School of Medicine.

OLIVER COPE, M.D., Boston, Massachusetts—Associate Professor of Surgery, Harvard Medical School, Visiting Surgeon, Massachusetts General Hospital.

ALBERT SEGALOFF, M.D., New Orleans, Louisiana—Associate Professor of Clinical Medicine, Tulane University of Louisiana School of Medicine, and Director of Endocrine Research, Alton Ochsner Medical Foundation.

WM. BARRY WOOD, JR., M.D., Baltimore, Maryland—Professor of Microbiology and Director of the Department of Microbiology, Johns Hopkins University Schools of Medicine, and Hygiene and Public Health.

SPECIAL GUESTS OF SECTIONS

J. PALMER DEARING, M.D., Washington, D.C.—Director of Health Services, Office of Civil Defense and Mobilization.

J. R. BETSON, JR., M.D., Albuquerque, New Mexico—Obstetrician and Gynecologist, Lovelace Clinic.

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Information

BADGES. It is important that badges be worn at all times. Admission to scientific meetings is by badge only.

COUNCIL. Frenchette Room. The first meeting of the Council will be held Saturday, February 20 at 9:30 a.m. Further meetings will be held each morning at 7:30 a.m.

EMERGENCY CALLS AND MESSAGES. Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, HUBbard 3-1581.

EXHIBITS. Technical Exhibits — Ballroom, Sunset Room and Boulevard Room, Casino Floor.

Scientific Exhibits—South end of the Sunset Room and the north end of the Boulevard Room, Casino Floor. See list on page 37.

Medical Motion Pictures will be shown in the Colonial Room. See program synopsis, page 33.

You are urged to visit and attend all exhibits.

MEETING TIMES AND PLACES. See chart on page 9 for exact times and places of general and section meetings.

REGISTRATION. Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration, except for Postgraduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibits areas is by badge only.*

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION. (a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.) (b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.) (c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer. (d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer. (e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification. (f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

Other Meetings and Entertainment

• SATURDAY, FEBRUARY 20

C.M.A. HOUSE OF DELEGATES OPENING SESSION
—Embassy Room, 7:30 p.m.

C.M.A. Cancer Commission Conferences on Radiology and Pathology—East Venetian Room, Pathology; West Venetian Room, Radiology, 9:15 a.m. to 4:30 p.m.

C.M.A. Cancer Commission Dinner—Frenchette Room, 6:00 p.m.

California Chapter of the American College of Chest Physicians Meeting and Reception—Embassy Room, Meeting, 9:00 a.m. to 5:00 p.m.; Reception, Regency Room, 5:00 to 7:00 p.m.

• SUNDAY, FEBRUARY 21

PRESIDENTS' DINNER DANCE—Cocoanut Grove, Ambassador Hotel, 8:00 p.m. Formal dress optional. Honoring the Presidents of the California Medical Association

and the Woman's Auxiliary. Tickets on sale in the Main Floor Lobby.

C.M.A. Section on Allergy and California Society of Allergy Luncheon—Oval Room "A," 12:30 p.m.

C.M.A. Section on Allergy and California Society of Allergy Reception and Dinner—Reception at 7:00 p.m., Lido Room; Dinner Dance at 8:00, Cocoanut Grove (Joining C.M.A. Presidents' Dinner Dance).

C.M.A. Section on Orthopedics Luncheon—Regency Room, 12:30 p.m.

• MONDAY, FEBRUARY 22

A.M.A. Delegates Meeting—Lido Room, 2:00 p.m.

• TUESDAY, FEBRUARY 23

Local County Health Officers and County Society Officers Meeting—West Venetian Room, 2:00 p.m.

SCIENTIFIC SESSIONS

LOCATION	SUNDAY FEBRUARY 21		MONDAY FEBRUARY 22		TUESDAY FEBRUARY 23		WEDNESDAY FEBRUARY 24	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
AMBASSADOR HOTEL (Lobby Floor)								
Embassy Room	9:30 a.m.* House of Delegates	2 p.m. General Meeting Parathyroid Diseases		2 p.m. General Meeting Advanced Malignant Disease		2 to 3:30 p.m. General Meeting 3:30 to 5:30 p.m. Clinical-Patho- logical Conference	9:30 a.m. House of Delegates	
East Venetian Room	9 a.m. Pathology		9 a.m. Internal Medicine				9 a.m. Public Health	2 p.m. Psychiatry
West Venetian Room	9 a.m. Radiology	4 p.m. Radiology	9 a.m. Obstetrics and Gynecology		9 a.m. Special Meeting Disaster Medical Care		9 a.m. Pediatrics	2 p.m. General Practice, Obstetrics, Pediatrics Public Health
Colonial Room	9 a.m. General Surgery	2 p.m. Film Symposium	9 a.m. Film Symposium	2 p.m. and 8 p.m. Film Symposia	9 a.m. Film Symposium	3:45 p.m. and 8 p.m. Film Symposia	9 a.m. Film Symposium	2 p.m. Film Symposium
Grove Lounge	9 a.m. Dermatology		9 a.m. Ear, Nose and Throat				9 a.m. Urology	2 p.m. Urology
Lido Room	9 a.m. Industrial Medicine and Surgery	2 p.m. Ind. Med. & Surg., Physical Medicine	9 a.m. Physical Medicine					
Regency Room	9 a.m. Orthopedics		9 a.m. Postgraduate Course U.S.C.—Endocrinology	2 p.m. Eye	9 a.m. Postgraduate Course U.S.C.—Endocrinology		9 a.m. Neurology	2 p.m. Anesthesiology
Oval Room A (Casino Floor)	9 a.m. Allergy		9 a.m. Postgraduate Course U.C.L.A. Infectious Diseases		9 a.m. Postgraduate Course U.C.L.A. Infectious Diseases			
WHITE MEMORIAL HOSPITAL	9 a.m.* (Bus at 8 a.m.*) Postgraduate Course C.M.E.—Minor Surgery		9 a.m.* (Bus at 8 a.m.*) Postgraduate Course C.M.E.—Minor Surgery		9 a.m.* (Bus at 8 a.m.*) Postgraduate Course C.M.E.—Minor Surgery			
L. A. COUNTY HOSPITAL (Sunday only)	9 a.m.* (Bus at 8 a.m.*) Postgraduate Course U.S.C.—Endocrinology							
CHAPMAN PARK HOTEL (Sunday only)	9 a.m. Postgraduate Course U.C.L.A. Infectious Diseases							

*Buses will leave Ambassador Hotel, Wilshire entrance, at 8:00 a.m.

† Opening meeting, House of Delegates, 7:30 p.m., Saturday, Feb. 20.

COUNCIL OF THE C.M.A. MEETS DAILY AT 7:30 A.M. IN THE FRENCHETTE ROOM

TECHNICAL EXHIBITS—Sunset Room, Ballroom and Boulevard Room, Casino Floor.

SCIENTIFIC EXHIBITS—North End, Boulevard Room; South End, Sunset Room, Casino Floor.

SCIENTIFIC SESSIONS

GENERAL MEETINGS

FIRST GENERAL MEETING

SUNDAY, FEBRUARY 21

2:00—Embassy Room

Symposium

Parathyroid Disorders—Diagnosis and Treatment

Moderator: William F. Pollock, M.D.
Santa Monica

- 2:00—The Diagnosis and Differential Diagnosis of Hyperparathyroidism—Gilbert S. Gordan, M.D., San Francisco.
- 2:30—The Application of the Newer Tests in Parathyroid Disease—Telfer B. Reynolds, M.D., Los Angeles.
- 3:00—Hyperparathyroidism—Surgical Experiences in the Treatment of 225 Cases Over 25 Years—Oliver Cope, M.D., Boston, Massachusetts, by invitation.
- 3:30—Recent Advances in Homotransplantation Techniques for Total Parathyroid Deprivation—Alex Gerber, M.D., Alhambra.
- 3:50—Panel Discussion—Questions and Answers. Members of the audience are strongly urged to submit questions to the panel.

SECOND GENERAL MEETING

MONDAY, FEBRUARY 22

2:00—Embassy Room

Symposium

The Management of Advanced Malignant Disease

Moderator: Edward Shapiro, M.D., Beverly Hills

- 2:00—Prognostic Evaluation of Advanced Malignant Disease by the Pathologist—Lauren V. Ackerman, M.D., St. Louis, Missouri, by invitation.
- 2:30—Hormonal Alterations as a Treatment—Albert Segaloff, M.D., New Orleans, Louisiana, by invitation.
- 3:00—Contrasts and Enigmas in Thyroid Cancer—Oliver Cope, M.D., Boston, Massachusetts, by invitation.
- 3:30—The Place of Chemotherapy—Jesse Steinfeld, M.D., Los Angeles.
- 4:00—Palliation by Radiation—Malcolm A. Bagshaw, M.D., Palo Alto.
- 4:30—Panel Discussion with questions submitted from the audience.

SPECIAL MEETING

TUESDAY, FEBRUARY 23

9:00—West Venetian Room

Symposium

Disaster Medical Care

Chairman: Justin J. Stein, M.D., Los Angeles

- 9:00—Address of Welcome—T. Eric Reynolds, M.D., President, California Medical Association, Oakland.
- 9:05—Introduction to Seminar—Justin J. Stein, M.D., Chairman, California Medical Association Committee on Civil Defense and Disaster, Los Angeles.
- 9:15—The Federal Disaster Medical Care and Shelter Program—W. Palmer Dearing, M.D., by invitation, Director, Health Services, Office of Civil Defense and Mobilization, Washington, D. C.
- 9:35—Discussion of the Progress of the Disaster Program in California—Harold G. Robinson, by invitation, Director, State of California Disaster Office, Sacramento.
- 9:55—Status of Medical Preparations for Disaster in California—Frank L. Cole, M.D., by invitation, Chief, Medical and Health Division, State of California Disaster Office, Berkeley.
- 10:15—Problems Concerning Radioactivity and Radioactive Fall-Out During a Disaster—Simon Kinsman, Ph.D., by invitation, Radiological Health Consultant, Region IX, United States Public Health Service, San Francisco.
- 10:35—Intermission.
- 10:45—The Current Status of Bacterial and Chemical Warfare—Cecil H. Coggins, M.D., by invitation, Assistant Chief, Medical and Health Division, State of California Disaster Office, Sacramento.
- 11:05—The Objectives and Functions of the Committee on Disaster Medical Care of the American Medical Association, and The Organization of a County Medical Society for Disaster Medical Care—Wayne P. Chesbro, M.D., Chief, Medical and Health Services, Region II, State of California, Berkeley.

11:20—Problems Associated with Medical Disaster Care Preparations in Region I (Includes Los Angeles Area)—Frank F. Schade, M.D., Chief, Medical and Health Services, Region I, State of California, Los Angeles.

11:40—Question and Answer Period.

Moderator: Justin J. Stein, M.D., Los Angeles

All panelists will be available for questions from the audience

THIRD GENERAL MEETING

TUESDAY, FEBRUARY 23

2:00—Embassy Room

Moderator: Thomas H. Brem, M.D., Los Angeles

2:00—The Indications and Hazards of Corticosteroid Treatment—Albert Segaloff, M.D., New Orleans, Louisiana, by invitation.

2:45—The Limitations of Antimicrobial Therapy—William Barry Wood, Jr., M.D., Baltimore, Maryland, by invitation.

3:30—Clinical-Pathological Conference

Moderator: Thomas H. Brem, M.D., Los Angeles

Members of the Panel:

Pathologist: Lauren V. Ackerman, M.D., St. Louis, by invitation.

Surgical Consultant: Oliver Cope, M.D., Boston, by invitation.

Medical Consultant: Albert Segaloff, M.D., New Orleans, by invitation.

Five cases will be presented. Members of the panel will discuss each from the medical, surgical and pathological aspects.

Following are cases to be presented at the Clinical-Pathological Conference

CASE 1

A 63-year-old woman of Mexican extraction, who was first seen at the Los Angeles County Hospital in 1954, because of ulcers on the left leg, polyuria, polydipsia, and dyspnea. She was found to have diabetes mellitus, and her blood pressure was recorded as 200/100. She was treated with insulin and digitalis with much improvement.

During the following year she returned to the hospital on several occasions for varying symptoms. On one occasion she had diarrhea which subsided quickly, and on another she had fallen in the bathtub, injuring her back. X-rays showed generalized osteoporosis and a compression fracture L-1. Her diabetes appeared to be reasonably well controlled.

Her final admission was in January, 1956. This was occasioned by the sudden occurrence of anterior chest pain that had begun while she was sitting quietly. It was not accompanied by dyspnea, although it was aggravated somewhat by respiration. It radiated to both shoulders.

Physical examination disclosed a rather obese Mexican woman evidently in considerable pain. There was no particular dyspnea. The face was flushed. Temperature 99, respiration 18, blood pressure 200/100. The right fundus was obscured by a cataract, but the left appeared normal. Axillary lymph nodes were somewhat enlarged and apparently tender. The lungs were clear except for a few basal rales. The heart appeared to be enlarged with the apical impulse in the anterior axillary line. The sounds were clear, and there was a grade 2 systolic murmur in the second right intercostal space. The abdomen was obese and purplish striae were present in the flanks. No organs were palpable. Pelvic examination was normal. Old healed scars were present on the legs and no abnormal neurological signs were found.

The red blood count and hemoglobin were normal. The urine contained a few white blood cells but albumin, acetone, and sugar were absent. The electrocardiogram showed left ventricular hypertrophy only.

Serum sodium was 145 mEq./liter and CO₂ 29 mEq./liter.

The patient was treated symptomatically and the chest pain subsided without being identified as to cause. About two weeks after admission she became drowsy and lethargic without localizing signs. The serum sodium was 138 mEq./liter, potassium 2.5 mEq./liter, CO₂ 23 mEq./liter, and the nonprotein nitrogen 32 mgm. per cent.

The following day she was found to have a left hemiplegia with asphasia and inability to swallow. Blood pressure 170/80. Her condition deteriorated over the next few days with subsequent coma and death.

CASE 2

A 38-year-old unmarried white woman entered the hospital in April 1959 because of shortness of breath and swelling of the legs. Her history goes back to childhood when at six she had severe scarlet fever. Subsequently she was found to have a persistently rapid heart and complained of palpitation. In her late teens she began to limp, and a bowed tibia was found by her physician who ascribed it to calcium deficiency.

Menses began at 18 after a series of hormone injections. Periods were scant and infrequent, ceasing altogether at age 37. The breasts had never developed nor had axillary or pubic hair ever appeared.

At 24 a goiter was first noted. There was considerable emotional instability at this time, although "nervousness" had existed for many years. She subsequently fractured the right wrist three times with relatively minor trauma.

She had had polyuria, polydipsia and polyphagia for many years and six to eight soft bowel movements daily for as long as she could remember.

Physical examination on admission disclosed a thin, malnourished, very nervous woman looking considerably older than 38. There were many purposeless, fidgety motions of the hands. The skin was fine and soft and the hair sparse and silky. The blood pressure was 140/80, pulse 150 and grossly irregular, respiration 26 and temperature 101. There was obvious exophthalmos and lid lag. There was slight icterus of the sclerae. The pupils were normal, but the discs were distinctly pale, especially on the left, and a bitemporal visual field defect was easily demonstrated. The neck veins were distended, and the thyroid diffusely enlarged. The lungs were dull at bases with numerous rales. The heart was enlarged, the rate rapid, and rhythm grossly irregular with a pulse deficit of 30. A grade 2 systolic murmur was present over the whole precordium. Circulation time—10 seconds arm to tongue. Breasts were small and atrophic. The abdominal wall was edematous. The liver was moderately enlarged and tender. The genitalia were adolescent,

the cervix and uterus being infantile. The lower extremities were very edematous. There was a fine tremor of the extended hands. The reflexes were normal.

Laboratory examinations revealed a moderate anemia with a hemoglobin of 9.8 gm., a leukopenia of 2,700 with 53 per cent granulocytes and 47 per cent lymphocytes. The red cells were hypochromic but normal in size and shape. The urine was normal except for the presence of urobilinogen in a dilution of 1:128. Sulkowitch—trace.

A large variety of blood chemical determinations were made. The more important ones were: CO₂ 29 mEq., phosphorus 3.2 mgm. per cent, calcium 8.3 mgm. per cent, alkaline phosphatase 4.4 units (normal 3), albumin 2.3 gm. per cent, globulins 4.7 gm. per cent, serum bilirubin 2.5 mgm. per cent with 1.5 mgm. direct, fasting blood sugar 104 mgm. and 2-hour postprandial blood sugar 140 mgm. per cent. Protein bound iodine 15 micrograms per cent, and cholesterol 72 mgm. per cent. Radioactive iodine uptake—79 per cent.

The patient was treated with digitalis and diuretics, and her congestive failure responded rapidly.

The following endocrine studies were performed:

Control			
Eosinophil count	200		
17-ketosteroids /24 hr.	8.5, 4.5 and 0.5 mgm.		
17-ketogenic steroids /24 hr.	10.2, 11.2 and 14.2 mgm.		
Follicle stimulating hormone (mouse units)	16, 5 and 5		
ACTH (Intravenous)			
Eosinophil count	50		
17-ketosteroids /24 hr.	6.5, 5.5 and 7.0 mgm.		
17-ketogenic steroids /24 hr.	19.5, 20.7 and 24.8 mgm.		
Follicle stimulating hormone (mouse units)	16 and 5		

Treatment has resulted in considerable improvement, but she has recently returned to her Christian Science practitioner.

CASE 3

The patient is a 48-year-old negro woman who entered the hospital because of fatigability and weakness, which she related to an attack of flu a month previously. She had been aware of hypertension for several years and had been under a doctor's care. She had never had symptoms of heart failure but recently had been troubled with headaches. Following the episode of flu she felt completely "run down" and had to quit her work as a domestic because of weakness of the legs.

The physical examination showed her to be well developed and in good nutrition. She was not acutely ill or in particular distress. The blood pressure was 240/140. The retinal arteries were somewhat narrowed but the discs appeared normal, and there were no hemorrhages. The lungs were clear and the heart was not appreciably enlarged nor were murmurs heard. The abdomen was negative. No edema was present, and the neurological examination was normal.

The routine blood count and urinalysis were normal. The concentration of the urine was persistently low, ranging from 1.005 to 1.009, and it was always alkaline in reaction with a pH of 7.5.

The blood urea nitrogen was 12 mgm., serum sodium 148 mEq., CO₂ 39 mEq., chloride 93 mEq., and potassium 2.1 mEq.

A regitine test and urinary catecholamines were normal.

On a low sodium, high potassium diet, the CO₂ fell to 29 mEq. and the potassium increased to 3.8 mEq. On returning

to a regular hospital diet, the CO₂ increased to 33 and the potassium fell to 2.3 mEq. in eight days.

Arterial blood pH was found to be 7.52 and 7.51 and the carbon dioxide pressure 46 and 43 mm. of mercury (normal 40).

The patient was operated upon.

CASE 4

The patient is a 51-year-old Mexican male who came to the hospital because of palpitation and rapidity of the heart. He had had high blood pressure for several years that he knew of, but had not been troubled until about a year before when he sought medical help for right lower quadrant abdominal pain. His physician prescribed medicine for the hypertension and the pain disappeared.

About six months before admission he developed nervousness, vigorous heart action, excessive sweating, and tremor of the hands. He lost about twenty pounds despite a good appetite. His physician prescribed tablets which again produced relief of symptoms. However, he ran out of tablets and money. Because of a recurrence of symptoms he came to the county hospital.

Examination disclosed a well-nourished and well developed man in no acute distress. His blood pressure was 200/150 in both arms and the heart rate was 116 and regular. The hands were sweaty and cool. The optic fundi showed only some arteriovenous compression. The thyroid was not detectably enlarged. There was a vigorous systolic pulsation in the suprasternal notch. Lungs were clear. The heart appeared to be enlarged and its impulse forceful. No murmurs were present. No organs or masses were palpable in the abdomen. The genitalia were normal. Reflexes normal.

Laboratory examinations: Hemoglobin 17.5 gms., leukocyte content 11,000 with normal differential. Urinalysis: Specific gravity 1.020, albumin 3+, sugar negative. Microscopic negative.

Blood urea nitrogen—17 mgms. Blood sugar (2 hours postprandial) 210 mgm. Protein-bound iodine—7.8 micrograms per cent.

Chest x-ray: Heart and lungs normal.

The patient was treated with bed rest, reserpine and apresoline. The blood pressure fell to levels of approximately 160/80, but the heart rate remained around 110.

Radioiodine studies showed the uptake by the thyroid to be 28 per cent of the administered dose in twenty-four hours. The basal metabolic rate was +20 and the serum cholesterol 298 mgm.

A glucose tolerance test gave the following values: Fasting—113 mgm., ½ hour—177, 1 hour—209, 2 hours—248, 3 hours—158, and 5 hours—112.

The patient was operated upon.

CASE 5

A 31-year-old white woman was first admitted to Barnes Hospital October 23, 1946 with chief complaint of umbilical hernia which she had had for many years and which had shown slight increase in size.

The only pertinent past history was that she had had two years of diarrhea consisting of 2 to 3 loose stools per day. Her blood pressure on admission was 95/50 and the physical examination was not remarkable except for the umbilical hernia. The only laboratory work which was done on this admission was routine blood count and urinalysis, both of which were within normal limits.

On October 25, 1946 she had repair of the umbilical hernia with a negative exploration of the abdomen and an incidental appendectomy. She was discharged November 6, 1946.

She was not seen here again until the time of her second admission from July 30, 1952 to December 23, 1952. At that time she stated that she had made a slow recovery from the previous operative procedure but had been plagued by constant right lower quadrant aching and a dragging sensation in that area. Consequently, 6 months after her first operation she was operated upon in her town and a "rotten" right ovary was removed.

Following this she did reasonably well, except that she continued to have diarrhea and shortly after that began to vomit. Both the diarrhea and the vomiting were progressive until February 1952 when she was having as many as 24 loose stools per day. These were on occasions tarry, but she denied the presence of bright red blood in them. The diarrhea was associated with cramping abdominal pain. The vomitus was green and consisted of undigested foods occurring immediately after she ate. In addition to the cramping abdominal pain she had burning epigastric pain which was relieved by food, and right upper quadrant pain which radiated to the scapula which was caused by food.

These symptoms had caused her to enter the hospital in her home town and there in February 1952 she had an upper gastrointestinal roentgen series which showed an "irritable stomach." Her only other complaints were slight dyspnea on exertion and ankle edema with easy fatigability.

On admission her blood pressure was 98/70 and she was a tired appearing, chronically ill woman. She showed clubbing of the fingers, diffuse spotty pigmentation which she said had been present all of her life, and diffuse abdominal tenderness. The admission diagnosis was regional ileitis or ulcerative colitis.

Routine blood count and urinalysis were normal. Stools were consistently guaiac positive and the vomitus was consistently guaiac negative. She had a fasting blood sugar of 44 mg. per cent which was checked on the following day and found to be 74 mg. per cent. The chloride was 80 mEq./liter and the total proteins were 5.8. Liver function tests, calcium and phosphorus were all within normal limits. Proctoscopy to 10 cm. was said to show greyish white edematous mucosa with focal bleeding points. She showed normal response to ACTH in the Thorne test.

She continued to complain of right upper quadrant pain, epigastric pain, and vomiting. A nasogastric tube was passed. On August 7, a gastrointestinal series showed "giant duodenal ulcer" and "atrophic small bowel patterns." Barium enema was reported as showing no specific abnormalities. She was started on a vigorous medical ulcer regime, but on August 8 she had an episode of sudden clinical shock with positive Trousseau's and negative Chvostek signs. She was treated empirically with calcium gluconate but chemistries showed normal calcium and phosphorus, a serum chloride of 56 mEq./liter and associated elevation in the CO_2 . She responded well to appropriate parenteral therapy and continued on her ulcer regime.

She continued to have copious gastric secretions (2,000 to 4,000 ml. daily) which were continually guaiac negative until August 16 at which time she had two episodes of shaking chills, elevated temperature and again clinical shock. Again she responded to appropriate parenteral therapy and was soon thereafter treated with continuous aluminum hydroxide drip and more vigorous medical ulcer therapy. At that time her urine chloride excretion was 66 mEq./liter and the stools continued guaiac positive.

On August 25 she had 600 cc. of grossly bloody stools. She was subjected to an exploratory laparotomy on that date and the operative note described a large mass in the head of the pancreas which was thought to be inflammatory and was not biopsied. In addition, the wall of the gallbladder was greatly thickened and the gallbladder itself was distended. A large duodenal ulcer was felt. A posterior gastroenterostomy was done and a cholecystostomy. She was again started on ulcer regime but continued to vomit and had copious gastric secretions (2,000 to 5,000 ml. daily) so that one week after the first operation, on September 2, 1952, she had a feeding jejunostomy of the Wetzell type. This was followed by episodes of alkalosis and tetany so that two weeks after the gastrojejunostomy, on September 9, 1952, she had a subtotal gastric resection, 75 to 80 per cent of the stomach was removed, and a posterior Polya type anastomosis was done. During the operative procedure a major pancreatic duct was cut and closed with heavy silk suture. The pathological report of the stomach showed no abnormalities.

In the immediate postoperative period she continued to have copious gastric secretions in the amount of 1,500 to 2,000 ml. per day. She had episodes suggestive of partial small bowel obstruction, continual substernal pain, continual diarrhea and finally, three weeks after the gastrectomy, she began to have voluminous pancreatic secretions pour from the abdominal wound. At this time also she developed thrombophlebitis of the right leg. The gastric secretions and the pancreatic secretions were returned through the feeding jejunostomy. At that point also for the first time a stool fat was done which was 1 plus, serum amylases during this period consistently ran 80 to 100, and the first gastric analysis which was done showed 10 units of free acid and 70 units of total acid. Her complaints continued the same so that on October 7, one month after the subtotal gastrectomy she was started on external roentgen therapy to the pancreatic region. Five days after this had been started the pancreatic secretion reached its peak amount of 3,000 ml. in one day. Following this the amount decreased rapidly so that on October 21, the last day of roentgen therapy, she had no pancreatic drainage. Her course continued the same until November 22, when she complained of severe dysphagia in addition to the aforementioned complaints which also persisted. Upper gastrointestinal series at this time showed stricture of the distal third of the esophagus with peptic ulceration in that area, distal bulbous enlargement and question of hiatus hernia. The question of a marginal ulcer was also raised.

On November 29 her white count was discovered to be 1,100 and a hematology consultant attributed this to the irradiation.

On December 22 she was clinically improved although still having considerable diarrhea with abdominal cramping pain, still having epigastric pain, but without pancreatic drainage. She was, therefore, discharged for Christmas.

The third Barnes Hospital admission came one week later, on December 26, 1952 until discharge January 20, 1953. At that time she complained only of an abscess in the area of the previous pancreatic fistula. The only laboratory work which was done was a white count which was 5,300. The abscess was incised and drained, with an uneventful course, and she was discharged.

She was not seen here again until time for the fourth admission, from April 15, 1953 to May 10, 1953. She was at this time 37 years old and said that she had gained 20 pounds since her last admission, from 70 to 90 pounds. She stated also that she had done extremely well until three weeks before this admission when she again had onset of

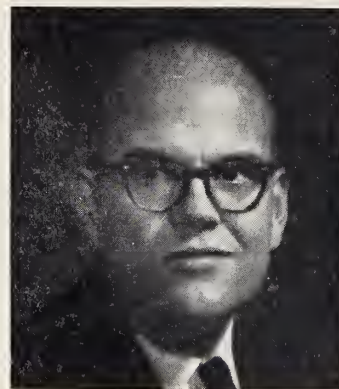
(Continued on Page 40)

INTERNAL MEDICINE

Chairman.....Edward Shapiro, M.D., Beverly Hills
 Secretary.....Charles D. Armstrong, M.D., Menla Park
 Assistant Secretary.....Cliffard B. Cherry, M.D., Las Angeles



EDWARD SHAPIRO
Chairman



CHARLES D. ARMSTRONG
Secretary

MONDAY, FEBRUARY 22

9:00—East Venetian Room

9:00—Rubella Arthritis—Philip R. Lee, M.D., Palo Alto.

Further observations on a disease of modest severity but frequent recurrence.

9:12—Familial Nonhemolytic Jaundice with Conjugated Bilirubin—Bernard J. Haverback, M.D., Los Angeles, and Samuel K. Wirtschafter, M.D., Los Angeles, by invitation.

A third variety distinguished by conjugated bilirubin and normal liver biopsy.

9:24—The Relative Sensitivity of Laboratory Tests in Diagnosis of Iron-Deficiency Anemia with Particular Reference to the Oral Fe⁵⁹ Appearance Test—Gerald Belkin, M.D., U.S. Air Force, by invitation; and Irwin M. Weinstein, M.D., Los Angeles.

A particularly sensitive index of blood loss anemias.

9:36—The Temperature of Venous Blood in the Extremities and Its Influence on the Blood Clotting Mechanism—Edward Rubenstein, M.D., and Arthur Lack, M.D., San Mateo.

Experimental evidence that lowered temperature may account for some peripheral emboli.

9:48—Determination of Cardiac Output with Radioactive Iodinated Human Serum Albumin—Clinical Value—Donald V. Mahony, M.D., Fullerton; Balakrishna Hegde, M.D., by invitation, and Franz K. Bauer, M.D., Los Angeles.

A relatively simple procedure appropriate for use on the severely ill.

10:00—Pitfalls in the Diagnosis and Management of Thyroid Disease—Albert Segaloff, M.D., New Orleans, by invitation.

Dr. Segaloff is the Director of Endocrine Research, Alton Ochsner Medical Foundation in New Orleans, Louisiana.

10:30—Business Meeting.

10:36—Chairman's Address: Renal Damage Caused by Penicillin in Subacute Bacterial Endocarditis—Its Recognition and Treatment—Edward Shapiro, M.D., Beverly Hills.

Two instructive cases—eosinophilia, if present, is a diagnostic clue.

10:48—Pyrogen Provocative Test in the Diagnosis of Pylonephritis—Yale J. Katz, M.D., by invitation, Los Angeles; George N. Herron, M.D., Los Angeles, by invitation; Robert I. Boyd, M.D., Pasadena; and Dixon Young, M.D., Los Angeles, by invitation.

Increase in pyuria after pyrogen injection may unmask latent disease.

11:00—Studies of Growth Hormone Control of Fat and Carbohydrate Metabolism in Humans—Josiah Brown, M.D., Los Angeles, by invitation.

Hormone augments the utilization of fatty acids for energy.

11:12—Alpha Particle Irradiation of the Pituitary in Acromegalics—Richard Carlson, M.D., Berkeley, by invitation; and Francesco Sangalli, M.D., Oakland.

Cyclotron exposure is of benefit in previously untreated patients.

11:24—**Tracheotomy for Acute Pulmonary Insufficiency Complicating Chronic Pulmonary Emphysema**—Lailee Backhtiar Tecimer, M.D., by invitation, and Morton Lee Pearce, M.D., Los Angeles.

A procedure of life-saving potential in the failing patient.

11:36—**Idiopathic Pulmonary Hemosiderosis—Report of Two Cases**—Maurice Yettra, M.D., Herman

Weiner, M.D., and Erwin D. Goldenberg, M.D., Los Angeles.

Details of a rare but important clinical syndrome.

11:48—**The Chloride Content of the Cerebrospinal Fluid**—Hyman W. Gierson, M.D., Los Angeles; and G. J. Owens, M.D., Milwaukee, Wisconsin, by invitation.

Reduced levels most evident in tuberculous or fungal meningitis.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

GENERAL SURGERY

Chairman.....William F. Pollock, M.D., Santa Monica
 Secretary.....Philip R. Westdahl, M.D., San Francisco
 Assistant Secretary.....William P. Mikkelsen, M.D., Los Angeles



WILLIAM F. POLLOCK
 Chairman



PHILIP R. WESTDAHL
 Secretary

SUNDAY, FEBRUARY 21

9:00—Colonial Room

9:00—Treatment of Thrombophlebitis—Howard B. Kirtland, Jr., M.D.; Roland G. Brown, M.D., San Diego; and Richard T. McDonald, M.D., by invitation, San Diego.

9:15—Postpartum Phlebectomy—Edward N. Snyder, Jr., M.D., and Martin H. Crumrine, M.D., Pasadena.

9:30—Surgical Aspects of the Adrenals—Victor Richards, M.D., San Francisco.

9:45—Salivary Gland Tumors—James T. Helsper, M.D., and George S. Sharp, M.D., Pasadena.

10:00—Nontoxic Nodular Goiter and Thyroid Therapy—Evolution of the Responsibilities of the Surgeon—Oliver Cope, M.D., Boston, by invitation.

10:30—Some Polyps I Have Known—Lauren V. Ackerman, M.D., St. Louis, by invitation.

11:00—Surgical Treatment of Malignant Melanoma—Arthur G. Michels, M.D., Los Angeles.

11:15—Present Status of the Prevention and Treatment of Intestinal Adhesions—John E. Conolly, M.D., San Francisco, and John W. Smith, M.D., by invitation, San Francisco.

11:30—The Significance of Elevated Serum Amylase Levels in Peptic Gastroduodenal Perforation—Frank A. Rogers, M.D., Whittier.

PRESIDENTS' DINNER DANCE

SUNDAY, FEBRUARY 21

Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

GENERAL PRACTICE

Chairman.....James S. Eley, M.D., Eureka
 Secretary.....Floyd K. Anderson, M.D., Los Angeles
 Assistant Secretary.....A. J. Fronzi, M.D., San Francisco



JAMES S. ELEY
Chairman



FLOYD K. ANDERSON
Secretary

The Section on General Practice will not conduct a scientific program in order not to conflict with the Postgraduate Courses, the General Meetings and the Joint Meeting of the Sections on General Practice, Obstetrics and Gynecology, Pediatrics and Public Health, which this section helped to arrange.

SUNDAY, MONDAY and TUESDAY MORNINGS FEBRUARY 21 to 23

Postgraduate Course in Endocrinology
 University of Southern California School of Medicine
 Co-sponsored by Section on General Practice

Sunday—Los Angeles County General Hospital
 Buses will be provided and leave from Wilshire entrance, Ambassador Hotel, at 8:00 a.m.

9:00 a.m.-12:30 p.m.—Clinical Case Demonstrations of Various Endocrine Abnormalities

Monday—Regency Room, Ambassador Hotel
 9:00 a.m.-Noon—Menstrual Irregularities. Thyroid Diseases.

Tuesday—Regency Room, Ambassador Hotel
 9:00 a.m.-Noon—Endocrine Problems Common to Both Sexes.
 For Curriculum, see pages 34 to 37.

12:00—Business Meeting and Election of Officers, Section on General Practice.

SUNDAY, FEBRUARY 21

2:00—Embassy Room

General Meeting

Symposium on Parathyroid Diseases

For program, see page 10.

MONDAY, FEBRUARY 22

2:00—Embassy Room

General Meeting

Symposium on Management of Advanced Malignant Disease

For program, see page 10.

TUESDAY, FEBRUARY 23

Noon—Regency Room

12:00—Business Meeting and Election of Officers.

TUESDAY, FEBRUARY 23

2:00—Embassy Room

2:00—**General Meeting and Clinical-Pathological Conference**

For program and case histories, see pages 11 to 13.

WEDNESDAY, FEBRUARY 24

2:00—West Venetian Room

Joint Meeting with Sections on Obstetrics and Gynecology, Pediatrics and Public Health

Symposium on Maternal and Perinatal Mortality

Moderator: James W. Ravenscroft, M.D., San Diego
Chairman, C.M.A. Committee on Maternal and Child Care

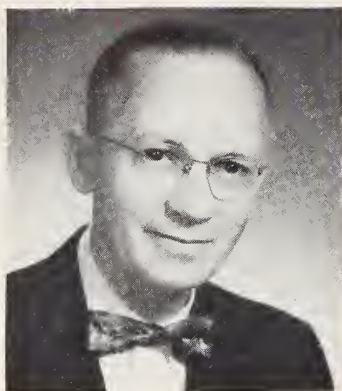
1. Explanation of California State Department of Public Health Policies and Procedures including Assembly Bill No. 595 Relative to Investigative Studies—Theodore Montgomery, M.D., California State Department of Public Health, Berkeley.

2. Two Maternal Mortalities—A Panel Discussion.
 Moderator: William Benbow Thompson, M.D., Los Angeles

3. Two Perinatal Mortalities—A Panel Discussion.
 Moderator: Robert F. Chinnock, M.D., Los Angeles

ALLERGY

Chairman.....George F. Harsh, M.D., San Diego
 Secretary.....Hyman Miller, M.D., Beverly Hills
 Assistant Secretary.....Gardner S. Stout, M.D., San Mateo



GEORGE F. HARSH
 Chairman



HYMAN MILLER
 Secretary

SUNDAY, FEBRUARY 21

9:00—Oval Room A

9:00—ACTH—Useful in Therapy?—Milan L. Brandon, M.D., San Diego, by invitation.
 Discussion.

9:20—Therapeutic Tests in Allergy—Their Feasibility and Limitations—Milton M. Hartman, M.D., San Francisco.
 Discussion.

9:40—The Agar Plate Method in the Determination of Drug Sensitivity—Van V. Chambers, M.D., Palo Alto.
 Discussion.

10:00—Nonreaginic Allergy—A Realistic Appraisal of Coca's Concept of Idioblapsis—Granville F. Knight, M.D., Santa Barbara.
 Discussion.

10:20—Recess.

10:30—Hand Dermatitis Due to Food or Pollen Allergy—E. James Young, M.D., and Albert H. Rowe, M.D., Oakland.
 Discussion.

10:50—Incidence of Sensitivity to Insect Protein Among Allergic and Nonallergic Individuals in an Urban Population—Walter R. MacLaren, M.D., Pasadena; D. Edward Frank,

M.D., Sun Valley; and Ben C. Eisenberg, M.D., Huntington Park.

Discussion.

11:10—The Significance of Infection in the Diagnosis and Management of Allergic Disease—Ralph Bookman, M.D., Beverly Hills; and Richard S. Shapiro, M.D., by invitation, Beverly Hills.

Discussion.

11:30—Chairman's Address: Liver Function Tests and Serum Vitamin C Levels in Acute and Chronic Urticaria and in Other Allergies—George F. Harsh, M.D., San Diego.

12:00—Recess.

12:30—Oval Room A

12:30—Luncheon and Business Meeting—Sponsored jointly by the Section on Allergy and the California Society of Allergy.

7:00—Lido Room

7:00—Reception before Presidents' Dinner Dance at 8 p.m. in Coconut Grove. Reception sponsored jointly by the Section on Allergy and the California Society of Allergy.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

ANESTHESIOLOGY

Chairman.....Charles D. Anderson, M.D., Oakland
 Secretary.....Roger W. Ridley, M.D., Riverside
 Assistant Secretary.....Gilbert E. Kinyon, M.D., La Jolla



CHARLES D. ANDERSON
 Chairman



ROGER W. RIDLEY
 Secretary

WEDNESDAY, FEBRUARY 24

2:00—Regency Room

- 2:00—Clinical Experience with Fluo-ether Anesthesia—Robert W. Bethune, M.D., Los Angeles, by invitation; and Henry V. Upholt, Jr., M.D., Gardena.

This azeotrope has been in use for over a year. The complications of hypotension and bradycardia are less frequent and less profound than those occurring with Fluothane. Also fluo-ether appears to provide adequate anesthesia.

Discussion.

- 2:30—Hepatotoxic Effects of Fluothane—Paul H. Lorhan, M.D., Torrance, by invitation.

Methods of measuring the hepatic effect of Fluothane are presented. The results of these measurements are discussed.

Discussion.

- 3:00—Qualifications of an Anesthesiologist for Group Practice—Gilbert Kinyon, M.D., San Diego.

The advantages and disadvantages of practicing anesthesiology in a group are discussed. To be successful in group practice, an anesthesiologist must prepare himself to meet the requirements and problems of this type of practice.

Discussion.

- 3:40—Cardiac Arrest Outside the Operating Room—Donald C. Schlotter, M.D., and Richard W. Gentry, M.D., Riverside.

Cardiac arrest occurred in two patients after they were admitted to the emergency room. The presence of adequate facilities and personnel made possible the resuscitation of both patients without demonstrable cerebral sequelae.

Discussion.

- 4:10—Business Meeting and Election of Officers.

- 4:45—Annual Meeting of the California Society of Anesthesiologists.

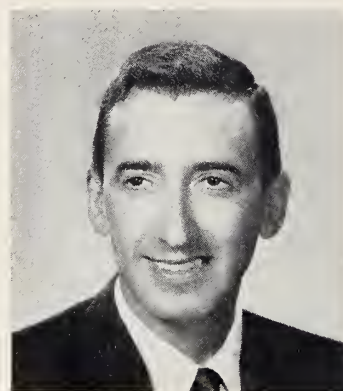
BRING PROPER IDENTIFICATION FOR REGISTRATION

DERMATOLOGY AND SYPHILOLOGY

Chairman.....Anker K. Jensen, M.D., Los Angeles
 Secretary.....Edward L. Laden, M.D., Inglewood
 Assistant Secretary.....Paul M. Crossland, M.D., Santa Rosa



ANKER K. JENSEN
 Chairman



EDWARD L. LADEN
 Secretary

SUNDAY, FEBRUARY 21

9:00—Grove Lounge

- 9:00—Chairman's Address: A Practical Approach for the Office Treatment of Skin Cancer—Anker K. Jensen, M.D., Los Angeles.
- 9:20—The Treatment of Onychomycosis of the Feet with Griseofulvin—Ronald M. Reisner, M.D., by invitation; Richard S. Homer, M.D., Victor D. Newcomer, M.D., and Thomas H. Sternberg, M.D., Los Angeles.
- 9:40—Steroids in Dermatology—Robert G. Walton, M.D., Modesto.
- 10:00—Eosinophilic Granuloma of the Skin, Bone and Mucous Membrane—Francis J. Sullivan, M.D., by invitation; and John H. Epstein, M.D., San Francisco.

- 10:20—The Electron Beam in the Treatment of Mycosis Fungoides—Harold M. Schneidman, M.D., San Francisco.

10:40—Recess.

11:00—

Symposium

Psychocutaneous Medicine

Moderator: Maximilian E. Obermayer, M.D., Los Angeles

- 11:00—Psychophysiology of the Skin—Edward J. Stainbrook, M.D., Los Angeles.
- 11:20—Self-Inflicted Lesions—Maximilian E. Obermayer, M.D., Los Angeles.
- 11:40—Discussion—Maximilian E. Obermayer, M.D., Los Angeles, Moderator.
- 11:50—Business Meeting and Election of Officers.

REGISTRATION

Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration except for Post-graduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

EAR, NOSE AND THROAT

Chairman.....Ewing Seligman, M.D., Beverly Hills
Secretary.....Heinrich W. Kohlmaas, M.D., Oakland
Assistant Secretary.....Marvin W. Simmans, M.D., Fresno



EWING SELIGMAN
Chairman



HEINRICH W. KOHLMOOOS
Secretary

MONDAY, FEBRUARY 22

9:00—Grove Launge

9:00—The Diagnosis of Deafness in the Pre-School
Child—George W. Olson, M.D., Fresno.
Discussion.

9:30—Intravenous Fluids in Tonsillectomy—Fordyce
Johnson, M.D., Pasadena.
Discussion.

10:00—Tympanoplasty—George T. Hodges, M.D.,
Newport Beach.
Discussion.

10:30—Tracheotomy in the Newborn—Chester M.
Weseman, M.D., Berkeley.
Discussion.

11:00—Fatal Epistaxis—Francis Berchmans Quinn,
Jr., M.D., Los Angeles.
Discussion.

11:30—The Dry Nose and Postnasal Drip—William
Baxter, M.D., Los Altos.
Discussion.

12:00—Business Meeting and Election of Officers.

PRESIDENTS' DINNER DANCE

SUNDAY, FEBRUARY 21

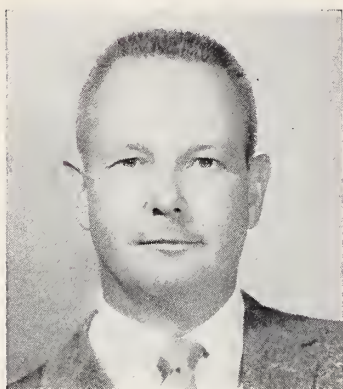
Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

EYE

Chairman.....A. Ray Irvine, M.D., Los Angeles
Secretary.....Earle H. McBain, M.D., San Rafael
Assistant Secretary.....Floyd M. Band, M.D., San Diego



A. RAY IRVINE
Chairman



EARLE H. MCBAIN
Secretary

MONDAY, FEBRUARY 22

2:00—Regency Room

2:00—The Ophthalmologist's Role in Contact Lens Prescription—Richard A. Westsmith, M.D., San Mateo.
Discussion.

2:30—Recent Technical Advances in Contact Lenses—James F. Kleckner, M.D., Los Angeles.
Discussion.

3:00—Contact Lenses in Unusual Cases—J. Myron Middleton, M.D., Beverly Hills.
Discussion.

3:30—Sensory Deprivation on an Eye Service: Its Significance and Management—William J. Filante, M.D., Los Angeles; Jack L. Goldberg, M.D., and Harold W. Jones, M.D., Los Angeles, by invitation; and Eugene Ziskind, M.D., Los Angeles.
Discussion.

4:00—Business Meeting and Election of Officers.

6:00—Business Meeting and Election of Officers.

EMERGENCY CALLS AND MESSAGES

Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, HUBBARD 3-1581.

INDUSTRIAL MEDICINE AND SURGERY

Chairman.....Gondolph A. Prisinzano, M.D., Sacramento
Secretary.....Robert C. Rossberg, M.D., Los Angeles
Assistant Secretary....John H. Leimbach, Jr., M.D., Son Francisco



GANDOLPH A. PRISINZANO
Chairman



ROBERT C. ROSSBERG
Secretary

SUNDAY, FEBRUARY 21

9:00—Lido Room

9:00—Suggestions for Decreasing the Malpractice Potential of Industrial Practice—Henry Kappler, Attorney at Law, Los Angeles, by invitation.

Discussion.

9:25—Industrial Visual Screening—Advantages and Disadvantages of Various Instruments—Byron H. Demorest, M.D., Sacramento, and John A. Berg, M.D., Sacramento.

Discussion.

9:50—Diagnosis and Initial Treatment of Chest Injuries—R. Reed Austin, M.D., Los Angeles.

Discussion.

10:15—Basic Radiological Procedures and Interpretation of the Initial Industrial Bone Injuries—Samuel Finck, M.D., Los Angeles.

Discussion.

10:40—Recess.

10:50—Diagnosis and Initial Treatment of the Traumatic Abdomen—W. Castleberry Custer, M.D., Los Angeles.

Discussion.

11:15—Twisted Omentum Resembling Acute Abdomen of Industrial Origin—Reuben Weingarten, M.D., Los Angeles.

Discussion.

11:40—Plastic Surgery Problems Applied to Industrial Medicine—Salvador Castanares, M.D., Los Angeles.
Discussion.

12:00—Business Meeting.

SUNDAY, FEBRUARY 21

2:00—Lido Room

Joint Meeting with the Section on Physical Medicine
Chairman: Gandolph A. Prisinzano, M.D., Sacramento

Panel Discussion

Diagnosis and Treatment of Soft Tissue Injuries of the Knee, Ankle, and Foot

Moderator: Willis Jacobus, M.D., Los Angeles

2:00—Review of Anatomy of the Knee, Ankle and Foot—Charles O. Bechtol, M.D., Los Angeles.

2:20—Soft Tissue Injuries of the Knee—A. A. Mason, M.D., Los Angeles.

2:40—Soft Tissue Injuries of the Ankle and Foot—Christopher Mason, M.D., Los Angeles.

3:00—Physical Medicine Treatment Techniques for Injuries of the Knee, Ankle, and Foot—David Rubin, M.D., Los Angeles.

3:20—Round Table Discussion.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

OBSTETRICS AND GYNECOLOGY

Chairman.....Donald R. Nelson, M.D., San Francisco
Secretary.....John C. McDermott, M.D., Los Angeles
Assistant Secretary.....Edward F. Heoley, M.D., San Rafael



DONALD R. NELSON
Chairman



JOHN C. McDERMOTT
Secretary

MONDAY, FEBRUARY 22

9:00—West Venetian Room

- 9:00—Sexual Problems Presented to the Gynecologist—Robert H. Fagan, M.D., Los Angeles.
- 9:30—Vaginal Anatomy Studies with Gel Molds—Kenneth F. Morgan, Jr., M.D., Los Angeles.
- 10:00—Backache in Pregnancy—Robert M. Jameson, M.D., San Francisco.
- 10:30—Recess.
- 10:45—Cancer and Pregnancy—J. R. Betson, Jr., M.D., by invitation, Albuquerque, New Mexico.
- 11:15—Chairman's Address—Donald R. Nelson, M.D., San Francisco.
- 11:45—Business Meeting.

WEDNESDAY, FEBRUARY 24

2:00—West Venetian Room

Joint Meeting with the Sections on General Practice, Pediatrics and Public Health

Symposium

Maternal and Perinatal Mortality

Moderator: James W. Ravenscroft, M.D., San Diego
Chairman, C.M.A. Committee on Maternal and Child Care

1. Explanation of California State Department of Public Health Policies and Procedures Including Assembly Bill No. 595 Relative to Investigative Studies—Theodore Montgomery, M.D., California State Department of Public Health, Berkeley.
2. Two Maternal Mortalities—A Panel Discussion.
Moderator: William Benbow Thompson, M.D., Los Angeles
3. Two Perinatal Mortalities—A Panel Discussion.
Moderator: Robert F. Chinnock, M.D., Los Angeles

EMERGENCY CALLS AND MESSAGES

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In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, HUBBARD 3-1581.

ORTHOPEDICS

Chairman.....Howard A. Mendelsahn, M.D., Beverly Hills
Secretary.....Carl E. Horn, M.D., Sacramento
Assistant Secretary.....Bret W. Smart, M.D., Oakland



HOWARD A. MENDELSON
Chairman



CARL E. HORN
Secretary

SUNDAY, FEBRUARY 21

9:00—Regency Room

9:00—Fracture Separation of the Lower Humeral Epiphysis—Leonard Marmor, M.D., and Charles O. Bechtol, M.D., Los Angeles.

Discussion: Four minutes.

9:30—The Surgical Treatment of Tri-Malleolar Fractures of the Ankle—Alonzo J. Neufeld, M.D., Los Angeles.

Discussion: Four minutes.

10:00—Unusual Manifestation of Primary Osteomyelitis in Children—Robert A. Horstman, M.D., Los Angeles.

Discussion: Four minutes.

10:30—Intermission.

10:40—Painful Feet—Robert P. Watkins, M.D., San Francisco.

Discussion: Four minutes.

11:10—Medical Problems in the Amputee—Verne T. Inman, M.D., San Francisco.

Discussion: Four minutes.

11:40—Chairman's Address—Howard A. Mendelsahn, M.D., Los Angeles.

12:10—Recess.

12:30—Regency Room

12:30—Luncheon.

1:00—Business Meeting and Election of Officers.

PRESIDENTS' DINNER DANCE

SUNDAY, FEBRUARY 21

Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

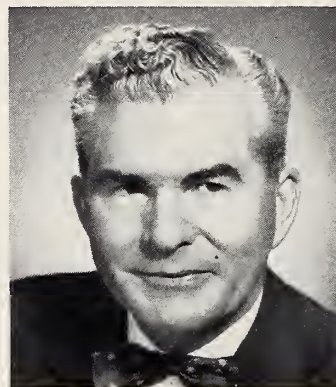
Tickets will be on sale in the Main Lobby

PATHOLOGY AND BACTERIOLOGY

Chairman.....Lea Kaplan, M.D., Los Angeles
Secretary.....Robert L. Dennis, M.D., San Jose
Assistant Secretary.....George J. Hummer, M.D., Santa Monica



LEO KAPLAN
Chairman



ROBERT L. DENNIS
Secretary

SUNDAY, FEBRUARY 21

9:00—East Venetian Room

This program will emphasize
Pediatric Pathology

- 9:00—Electron Microscopic Studies of Renal Pathology—Harrison Latta, M.D., Los Angeles, by invitation.
- 9:25—Studies on the Pathogenicity of Group A Hemolytic Streptococci—Wm. Barry Wood, Jr., M.D., Baltimore, by invitation.
- 9:55—Atresia and Stenosis of the Intestine in the Newborn Associated with Fibrocystic Disease of the Pancreas—Robert S. Cleland, M.D., Los Angeles.
- 10:15—Idiopathic Pulmonary Hemosiderosis—John Powers, M.D., by invitation, and Jackson T. Crane, M.D., San Francisco; and Denman Hammond, M.D., Los Angeles, by invitation.

10:35—Recess.

- 10:45—Uses and Abuses of Corticosteroids in Children—Albert Segaloff, M.D., New Orleans, by invitation.
- 11:15—The Anatomy of Leukemia—Daniel Stowens, M.D., Los Angeles.
- 11:35—Cytomegalic Cell Disease of Liver—Hugh A. Edmondson, M.D., Los Angeles.
- 11:55—Chairman's Address: Diagnostic Cytopathology of the Uterine Cervix, Using Acridine-Orange Fluorochrome: A Study of 4,000 Patients—Leo Kaplan, M.D., Los Angeles; Marianna Masin, M.D., by invitation; and Francis Masin, M.D., by invitation, Los Angeles.
- 12:30—Business Meeting.

PRESIDENTS' DINNER DANCE

SUNDAY, FEBRUARY 21

Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

PEDIATRICS

Chairman.....Gordon L. Richardson, M.D., North Hollywood
Secretary.....James L. Dennis, M.D., Oakland
Assistant Secretary.....Harry O. Ryan, M.D., Pasadena



GORDON L. RICHARDSON
Chairman



JAMES L. DENNIS
Secretary

SUNDAY, FEBRUARY 21

9:00—East Venetian Room

Pediatric Pathology

The Section on Pathology and Bacteriology has arranged a meeting emphasizing Pediatric Pathology. For program, see page 26.

WEDNESDAY, FEBRUARY 24

9:00—West Venetian Room

- 9:00—Head Injuries in Children—Robert Pudenz, M.D., Pasadena.
- 9:30—The Electroencephalogram — Its Indications and Limitations—Merl Carson, M.D., Los Angeles.
- 10:00—Cerebral Palsy—Early Diagnosis and Treatment—Margaret Jones, M.D., Los Angeles.
- 10:30—Recess.
- 10:45—The Child Who Does Not Talk—Edward Senz, M.D., Berkeley.
- 11:15—Rehabilitation of the Neurologically Handicapped Child—Gordon Williams, M.D., Palo Alto.
- 11:45—Business Meeting.

WEDNESDAY, FEBRUARY 24

2:00—West Venetian Room

Joint Meeting with the Sections on General Practice, Obstetrics and Gynecology, and Public Health

Symposium

Maternal and Perinatal Mortality

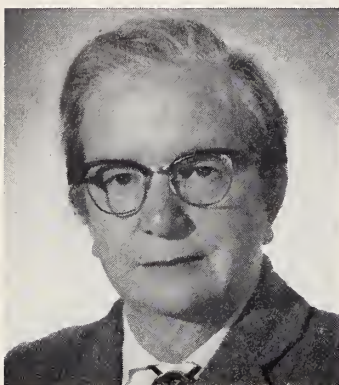
Moderator: James W. Ravenscroft, M.D., San Diego
Chairman, C.M.A. Committee on Maternal and Child Care

1. Explanation of California State Department of Public Health Policies and Procedures Including Assembly Bill No. 595 Relative to Investigative Studies—Theodore Montgomery, M.D., California State Department of Public Health, Berkeley.
2. Two Maternal Mortalities—A Panel Discussion.
Moderator: William Benbow Thompson, M.D., Los Angeles
3. Two Perinatal Mortalities—A Panel Discussion.
Moderator: Robert F. Chinnock, M.D., Los Angeles

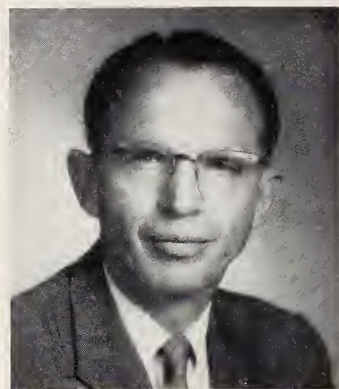
BRING PROPER IDENTIFICATION FOR REGISTRATION

PHYSICAL MEDICINE

Chairman.....Carrie E. Chapman, M.D., Oakland
Secretary.....Joseph E. Maschmeyer, M.D., Los Angeles
Assistant Secretary.....S. Malvern Dorinson, M.D., San Francisco



CARRIE E. CHAPMAN
Chairman



JOSEPH E. MASCHMEYER
Secretary

SUNDAY, FEBRUARY 21

2:00—Lido Room

Joint Meeting with the Section on Industrial Medicine
and Surgery

Chairman: Gandolph A. Prisinzano, M.D.
Sacramento

Panel Discussion

Diagnosis and Treatment of Soft Tissue Injuries
of the Knee, Ankle and Foot

Moderator: Willis Jacobus, M.D., Los Angeles

2:00—Review of Anatomy of the Knee, Ankle and
Foot—Charles O. Bechtol, M.D., Los Angeles.

2:20—Soft Tissue Injuries of the Knee—A. A. Ma-
son, M.D., Los Angeles.

2:40—Soft Tissue Injuries of the Ankle and Foot—
Christopher Mason, M.D., Los Angeles.

3:00—Physical Medicine Treatment Techniques for
Injuries of the Knee, Ankle and Foot—David
Rubin, M.D., Los Angeles.

3:20—Round Table Discussion.

MONDAY, FEBRUARY 22

9:00—Lido Room

9:00—Introduction—Carrie E. Chapman, M.D., Oak-
land, Chairman.

9:10— **Panel Discussion**

Present Day Management of Rheumatoid Arthritis

9:10—Current Therapy and Medical Management of
the Patient with Rheumatoid Arthritis—Al-
bert J. Josselson, M.D., Alhambra.

9:35—Present Day Physical Therapy for the Rheu-
matoid Arthritis Patient—Frances Baker,
M.D., San Mateo.

9:50—Present Day Occupational Therapy for the
Rheumatoid Arthritis Patient—Elizabeth S.
Austin, M.D., Los Angeles.

10:05—Recent Developments in Surgery and Or-
thotics for the Rheumatoid Arthritis Patient
—Vernon L. Nickel, M.D., Los Angeles;
Alice L. Garrett, M.D., Downey, by invita-
tion.

10:25—Round Table Discussion and Question Period.
Moderator: Fred B. Moor, M.D., Los Angeles

11:00—Business Meeting and Election of Officers.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

PSYCHIATRY AND NEUROLOGY

Chairman.....John D. Moriarty, M.D., Los Angeles
 Secretary.....Leon J. Whitsell, M.D., San Francisco
 Assistant Secretary.....Robert E. Wyers, M.D., Narwalk



JOHN D. MORIARTY
Chairman



LEON J. WHITSELL
Secretary

WEDNESDAY, FEBRUARY 24

9:00—Regency Room
Neurology

- 9:00—Clinical Manifestations on Basal Artery Insufficiency—William W. Anderson, M.D., San Francisco.
Discussion.
- 9:30—Vertigo as a Presenting Complaint: An Analysis of 400 Consecutive Cases—Donald Macrae, M.D., San Francisco.
Discussion.
- 10:00—Muscle Spindle Activity in Parkinsonism—William W. Hofmann, M.D., Palo Alto, by invitation.
Discussion.
- 10:15—Occlusion of the Middle Cerebral Artery in Children—Burton L. Wise, M.D., San Francisco.
Discussion.
- 10:45—The Medical-Educational Evaluation of the Language-Handicapped Child—William J. Wedell, M.D., San Francisco.
Discussion.
- 11:15—Further Studies of Electroencephalographic Changes and Other Neurophysical Changes in Altitude Chamber Experiments—George N. Thompson, M.D., Los Angeles.
Discussion.
- 11:45—Business Meeting.

WEDNESDAY, FEBRUARY 24

2:00—East Venetian Room
Psychiatry

- 2:00—Teaching Psychiatry to General Practitioners—Allen J. Enelow, M.D., Los Angeles.
Discussant: Richard H. Gwartney, M.D., San Bernardino.

2:25—Chairman's Address: Problems in Communication for the Psychiatrist—John D. Moriarty, M.D., Los Angeles.

2:50—Impressions of Soviet Psychiatry—George J. Wayne, M.D., Los Angeles.
Discussant: Eugene Ziskind, M.D., Los Angeles.

3:20—An Evaluation of the Effectiveness of Isocarboxazid, a New Iproniazid Analogue (Marplan) in Depressive Syndrome—Theodore Rothman, M.D., Beverly Hills; Harry M. Grayson, Ph.D., by invitation; and James T. Ferguson, M.D., Los Angeles.
Discussant: Keith S. Ditman, M.D., Los Angeles.

3:45—Wanted: A Biochemical Test for Schizophrenia—Ronald R. Koegler, M.D., Los Angeles; Edward G. Colbert, M.D., Los Angeles; and Samuel Eiduson, Ph.D., by invitation, Los Angeles.
Discussant: Allen J. Enelow, M.D., Los Angeles.

4:10—Precipitating Cause of Hospitalization of the Geriatric State Hospital Inpatient—Daniel A. Grabski, M.D., Norwalk.
Discussant: O. L. Gericke, M.D., San Bernardino.

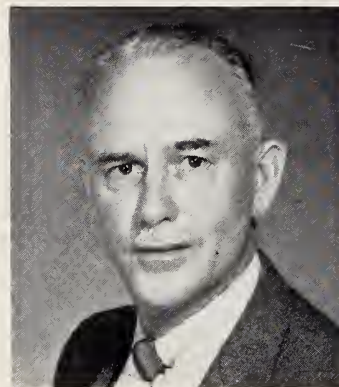
4:30—Follow-up Study of Epileptics Who Receive Group Psychotherapy—Charles Yeager, M.D., Donald A. Shaskan, M.D., by invitation; and Francis J. Rigney, M.D., San Francisco.
Discussant: Esther Somerfeld - Ziskind, M.D., Los Angeles.

PUBLIC HEALTH

Chairman.....Carolyn B. Albrecht, M.D., San Rafael
Secretary.....Merle E. Cosand, M.D., San Bernardino
Assistant Secretary.....Ellis D. Sox, M.D., San Francisco



CAROLYN B. ALBRECHT
Chairman



MERLE E. COSAND
Secretary

WEDNESDAY, FEBRUARY 24

9:00—East Venetian Room

- 9:00—A Program for the Stimulation of Research in Local Health Agencies—Robert Dyar, M.D., Berkeley.
Discussion.
- 9:30—Control of Antibiotic Resistant Hospital Infections—Edward Lee Russell, M.D., Santa Ana.
Discussion.
- 10:00—Recess.
- 10:15—The Practicing Physician and Public Health Agencies' Responsibility in Venereal Disease—Richard A. Koch, M.D., San Francisco.
Discussion.
- 10:45—Viral Central Nervous System Disease—Edwin H. Lennette, M.D.; Robert L. Magoffin, M.D., by invitation; Nathalie J. Schmidt, Ph.D., by invitation; and Arthur C. Hollister, Jr., M.D., Berkeley.
Discussion.
- 11:45—Business Meeting.

WEDNESDAY, FEBRUARY 24

2:00—West Venetian Room

Joint Meeting with the Sections on General Practice, Obstetrics and Gynecology, and Pediatrics

Symposium

Maternal and Perinatal Mortality

Moderator: James W. Ravenscroft, M.D., San Diego
Chairman, C.M.A. Committee on Maternal and Child Care

1. Explanation of California State Department of Public Health Policies and Procedures Including Assembly Bill No. 595 Relative to Investigative Studies—Theodore Montgomery, M.D., California State Department of Public Health, Berkeley.
2. Two Maternal Mortalities—A Panel Discussion.
Moderator: William Benbow Thompson, M.D., Los Angeles
3. Two Perinatal Mortalities—A Panel Discussion.
Moderator: Robert F. Chinnock, M.D., Los Angeles

BRING PROPER IDENTIFICATION FOR REGISTRATION

RADIOLOGY

Chairman.....William H. Graham, M.D., San Jose
 Secretary.....Frank C. Binkley, M.D., Pasadena
 Assistant Secretary.....Jahn R. Bryan, M.D., San Francisco



WILLIAM H. GRAHAM
 Chairman



FRANK C. BINKLEY
 Secretary

SUNDAY, FEBRUARY 21

9:00—West Venetian Raam

Diagnostic Radiology

9:00—Iatrogenic Perforation of the Esophagus—
 John H. Heald, M.D., San Francisco.
 Discussion.

9:25—Correlation of Gastroscopic and Radiographic
 Findings—Walter L. Stilson, M.D., and Erling
 S. Tobiassen, M.D., Los Angeles.
 Discussion.

9:50—Radiological Detection and Identification of
 Coronary Heart Disease—Bernard J.
 O'Loughlin, M.D., Los Angeles.
 Discussion.

10:15—Recess.

10:25—Pelvic Pneumography—A Useful Adjunct to
 Clinical Examination—G. Melvin Stevens,
 M.D., Richard S. Lee, M.D., and John F.
 Weigen, M.D., Palo Alto.
 Discussion.

10:50—Infections of the Intervertebral Disc—Robert
 B. Engle, M.D., Pasadena.
 Discussion.

11:15—Roentgenographic Variations of Paget's Dis-
 ease—Howard L. Steinbach, M.D., San Fran-
 cisco.

Discussion.

11:40—Middle-Lobe Syndrome—Stefan P. Wilk,
 M.D., Los Angeles.
 Discussion.

12:05—Business Meeting and Election of Officers.

SUNDAY, FEBRUARY 21

4:00—West Venetian Raam

Therapeutic Radiology

4:00—Nonsurgical Treatment of Primary Carci-
 noma of the Breast in Elderly Women—Rob-
 ert J. McKenna, M.D., by invitation, and
 Ian Macdonald, M.D., Los Angeles.
 Discussion.

4:25—Five-Year Results of Intracavitary Cobalt⁶⁰
 Therapy in Nasopharyngeal Cancer—Jerome
 M. Vaeth, M.D., by invitation; and Franz
 J. Buschke, M.D., San Francisco.
 Discussion.

4:50—Recess—Annual Meeting of Pacific Roentgen
 Society.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

UROLOGY

Chairman.....Earl F. Nation, M.D., Pasadena
 Secretary.....Morrell E. Vecki, M.D., San Francisco
 Assistant Secretary.....Sam Peck, M.D., San Diego



EARL F. NATION
 Chairman



MORRELL E. VECKI
 Secretary

WEDNESDAY, FEBRUARY 24

9:00—Grove Lounge

- 9:00—Management of Penoscrotal Fistula and/or Diverticula—A. Estin Comarr, M.D., Long Beach.
 Discussion by Harold G. Kudish, M.D., Beverly Hills.
- 9:30—A Rare Angiomyolipoma, Simulating Renal Tumor—Robert T. Plumb, M.D., San Diego, and James P. Felder, M.D., San Diego, by invitation.
- 10:00—Experience in Bladder Substitutes in Malignancy—Carl E. Ebert, M.D., Los Angeles.
 Discussion by B. Lyman Stewart, M.D., Los Angeles.
- 10:30—Use of the Double Balloon Hemostatic Catheter in Prostatic Surgery—R. O. Pearman, M.D., San Luis Obispo.
 Discussion by Miles Griffin, M.D., Oakland.
- 11:00—Contrast Cystography Following Transurethral Resection of Bladder Tumor—Henry Bodner, M.D., Van Nuys.
 Discussion by Roger W. Barnes, M.D., Los Angeles.
- 11:30—Urological Diagnosis by Cineradiography—Roderick D. Turner, M.D., Los Angeles.
 Discussion by Henry Bodner, M.D., Van Nuys.

WEDNESDAY, FEBRUARY 24

2:00—Grove Lounge

- 2:00—Torsion of the Testicle in the New-Born—Norman M. Nelson, M.D., Covina.
 Discussion by Everett D. Hendricks, M.D., Pasadena.
- 2:30—Kidney Function Tests in Children—Chester C. Winter, M.D., Los Angeles.
 Discussion by Richards P. Lyon, M.D., Berkeley.
- 3:00—Retropubic Excision of Urethral Diverticulum in a Female—John A. Arcadi, M.D., Whittier.
 Discussion by Milo Ellick, M.D., Long Beach.
- 3:30—Prevention and Management of Recurrent Urinary Calculi—Julius H. Winer, M.D., Beverly Hills.
 Discussion by James S. Elliot, M.D., Berkeley.
- 4:00—Chairman's Address—Earl F. Nation, Pasadena.
- 4:15—Business Meeting and Election of Officers.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

MOTION PICTURE PROGRAM

PAUL D. FOSTER, M.D., Chairman

Sunday to Wednesday, February 21 to 24

COLONIAL ROOM, AMBASSADOR HOTEL

Motion Picture Film Symposia will be offered daily in the Colonial Room, Ambassador Hotel. Each Symposium will have a Moderator and Panel of experts in the field (authors in many cases) to discuss films and answer questions from the audience. Following is a partial and tentative list of films which will be shown on the programs. A separate Motion Picture program with complete listing and description of films will be available at the time of the meeting.

SUNDAY, 2:00 P.M.

Surgery

Moderator: William P. Longmire, Jr., Los Angeles.
Removal of Left Ventricular Cavity Tumors.
Other films to be announced.

MONDAY, 9:00 A.M.

Emergencies in Practice

Moderator: Francis E. West, San Diego.
Panel: Bertrand Meyer and John Dillon, Los Angeles.
Rescue Breathing.
Just 4 Minutes (Team Approach to Cardiac Arrest).
Treatment of Open Fractures.
Cardiac Arrest.
Emergency Surgery of the Acutely Injured.

MONDAY, 2:00 P.M.

Anesthesiology

Moderator: Roger W. Ridley, Riverside.
Panel: Forrest Leffingwell and Emma Kittredge (Quinn), Los Angeles.
Premedication in Pediatric Surgery.
Fire and Explosive Hazards from Flammable Anesthetics.
Pediatric Anesthesiology.
Intravenous Anesthesia with Barbiturates.

MONDAY, 8:00 P.M.

Medical-Legal Symposium

Moderator: Mr. Frederick Field, Los Angeles.
Panel: Arthur A. Kirchner and Mr. James Ludlam, Los Angeles.
A Matter of Fact—American Medical Association and American Bar Association.
Other films to be announced.

TUESDAY, 9:00 A.M.

Pediatrics

Moderator: Ralph Netzley, Pasadena.
Panel: Robert F. Chinnock, Los Angeles; Mary Olney, San Francisco, and Charles M. Stewart, Los Angeles.

Physical Examination of the Newborn.
Congenital Bladder Neck Obstruction.
Duodenal Obstruction in Infancy.
Hernias in Infants and Children.

TUESDAY, 3:45 P.M.

Diseases and Management of Problems of the Aged

Moderator: George Griffith, Los Angeles.
Panel: JoAnn Taylor, Glendale; Angus McDonald, Los Angeles, and Frank Norman, Santa Rosa.
Rehabilitation Adds Life to Years.
Cerebral-Vascular Diseases: The Challenge of Management.

TUESDAY, 8:00 P.M.

Staphylococcus Infection

Moderator: Wm. Barry Wood, Baltimore, Maryland.
Panel: Lowell A. Rantz, Palo Alto; J. Norman O'Neill and Sister Liguori, Queen of Angels Hospital, Los Angeles.
Staphylococcal Infection in Surgery.
Hospital Sepsis—A Communicable Disease.
Prevention and Control of Staphylococcal Infections.

WEDNESDAY, 9:00-11:00 A.M.

Symposium on Acute Abdomen

Symposium to be announced.

WEDNESDAY, 11:00-12:00

Diagnosis and Treatment of Depressions and the Emotionally Disturbed

Moderator: Frank F. Tallman, Los Angeles.
Panel: Cyril B. Courville and Edward J. Stainbrook, Los Angeles.
Diagnosis and Treatment of Depressions in General Practice.
Other films to be announced.

WEDNESDAY, 2:00 P.M.

Diagnostic and Therapeutic Features of Cancer

Moderator: Justin Stein, Los Angeles.
Panel: Ian Macdonald and Robert Brown, Los Angeles.
Routine Pelvic Examination and Cytologic Method.
Benign and Malignant Tumors of the Larynx.
Combined Abdominoperineal Operation of Miles for Carcinoma of the Lower Rectum.
Exploration of Pancreas for Islet Cell Tumor.
Head and Neck Cancer.

POSTGRADUATE COURSES

Presented by the California Medical Association in cooperation with the College of Medical Evangelists, the University of California at Los Angeles, and the University of Southern California

FEE: \$25.00 for each course*

Out-of-State Faculty—Guests of the California Medical Association:

OLIVER COPE, M.D., Associate Professor of Surgery, Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts.

ALBERT SEGALOFF, M.D., Director, Division of Endocrinology, Alton Ochsner Medical Foundation, New Orleans, Louisiana.

WM. BARRY WOOD, JR., M.D., Professor of Microbiology, Johns Hopkins University School of Medicine, Baltimore, Maryland.

1. MINOR SURGERY IN THE OFFICE

Sunday, Monday and Tuesday Mornings, February 21, 22, 23

White Memorial Hospital, 1700 Brooklyn Avenue, Los Angeles

Program planned by the College of Medical Evangelists—G. E. Norwood, M.D., Assistant Dean and Chairman, Division of Postgraduate Medicine.

Course Chairman: Arthur I. Kugel, M.D.

Featuring: Closed Circuit Television.

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 9:00 a.m. to 12:00 noon.

Fee: \$25.00.

8:00 a.m. daily—Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to White Memorial Hospital.

Instructional Staff:

California Medical Association Guest:

Oliver Cope, M.D., Associate Professor of Surgery, Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts.

College of Medical Evangelists:

Molleurus Couperus, M.D., Associate Clinical Professor of Dermatology and Syphilology.

Howard S. Downs, M.D., Associate Professor of Anesthesiology.

Samuel H. Fritz, M.D., Assistant Professor of Surgery.

Wilmer C. Hansen, M.D., Assistant Clinical Professor of Surgery.

Malcolm R. Hill, Sr., M.D., Professor of Proctology.

J. Arthur Johnson, M.D., Instructor in Obstetrics and Gynecology.

Arthur I. Kugel, M.D., Associate Professor of Surgery.

Forrest E. Leffingwell, M.D., Professor of Anesthesiology.

Alonzo J. Neufeld, M.D., Professor of Orthopedic Surgery.

Albert L. Olson, M.D., Assistant Professor of Pathology.

Kathleen M. Schaefer, M.D., Assistant Professor of Anesthesiology.

William A. Scharffenberg, Jr., M.D., Assistant Professor of Orthopedic Surgery.

Clarence E. Stafford, M.D., Professor of Surgery.

SUNDAY, FEBRUARY 21

8:00 a.m. daily—Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to White Memorial Hospital.

Chairman of the Day: Alonzo J. Neufeld, M.D.

9:00—Problems in Obtaining and Handling Suitable Pathologic Material

Presentation will be illustrated and will include a discussion of: (1) Types of fixatives, (2) What is an adequate biopsy?, (3) Importance of gentle handling, (4) Importance of history and (5) Cytologic preparation—Albert L. Olson, M.D., and Associates.

9:30—Local Anesthetic Agents—An illustrated presentation that will include a discussion of relative effectiveness, prevention of dangerous reactions and how and where to effectively locally anesthetize—Forrest E. Leffingwell, M.D., Howard S. Downs, M.D., and Kathleen M. Schaefer, M.D.

Panel Discussion

10:30—Foreign Bodies: Their Diagnosis, Localization and Removal.

Moderator: Alonzo J. Neufeld, M.D.

Participants: Departments of Orthopedic Surgery, General Surgery, Otolaryngology, Ophthalmology, Urology and Radiology.

11:30—A Panel Interview of Discussants of the Day with Questions and Answers—Arthur I. Kugel, M.D., Moderator.

*Interns and Residents with proper identification will be registered without payment of the fee.

MONDAY, FEBRUARY 22

8:00 a.m. daily—*Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to White Memorial Hospital.*

Chairman of the Day: Malcolm R. Hill, Sr., M.D.

9:00—Television: Demonstration of Office Surgical Procedures in Dermatology—Molleurus Couperus, M.D., and Associates.

9:45—Television: Demonstration of Office Surgical Procedures in Proctology—Malcolm R. Hill, Sr., M.D., and Associates.

10:30—Television: Local Infiltrations as a Therapeutic Measure—William A. Scharffenberg, Jr., M.D., and Associates.

11:00—Television: Plastic Considerations in Minor Surgery in the Office, Including a Discussion of Suture Materials and Types of Incisions—Wilmer C. Hansen, M.D., and Associates.

11:30—Panel Interview of Discussants of the Day with Question and Answer Period—Arthur I. Kugel, M.D., Moderator.

TUESDAY, FEBRUARY 23

8:00 a.m. daily—*Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to White Memorial Hospital.*

Chairman of the Day: Clarence E. Stafford, M.D.

9:00—Television: Demonstration of Office Surgical Procedures in General Surgery—Samuel H. Fritz, M.D., and Associates.

9:45—Television: Demonstration of Office Surgical Procedures in Gynecology—J. Arthur Johnson, M.D., and Associates.

Panel Discussion

10:30—Pitfalls and Cautions in Office Surgical Procedures.

Moderator: Clarence E. Stafford, M.D.

Participants: Departments of General Surgery, Dermatology, Orthopedic Surgery, Proctology and Urology.

11:00—Discussion—Oliver Cope, M.D.

11:30—Panel Interview of Discussants of the Day with Question and Answer Period—Arthur I. Kugel, M.D., Moderator.

2. INFECTIOUS DISEASES

Sunday, Monday and Tuesday Mornings, February 21, 22, 23

Chapman Park and Ambassador Hotels

Program planned by University of California School of Medicine, Los Angeles, Thomas H. Sternberg, M.D., Assistant Dean for Continuation Medical Education.

Course Chairman: William L. Hewitt, M.D.

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 9:00 a.m. to 12:00 noon.

Fee: \$25.00.

Instructional Staff:

California Medical Association Guest:

W. Barry Wood, Jr., M.D., Professor of Microbiology, Johns Hopkins University School of Medicine, Baltimore, Maryland.

University of California School of Medicine, Los Angeles.

John M. Adams, M.D., Professor and Chairman of Pediatrics.

Wiley F. Barker, M.D., Associate Professor of Surgery.

Sydney M. Finegold, M.D., Assistant Professor of Medicine (in Residence).

Lucien B. Guze, M.D., Assistant Clinical Professor of Medicine.

William L. Hewitt, M.D., Professor of Medicine.

Victor D. Newcomer, M.D., Associate Professor of Medicine (Dermatology).

Aaron F. Rasmussen, M.D., Ph.D., Professor of Infectious Diseases.

Robert Roantree, M.D., Assistant Professor of Medical Microbiology at Stanford University School of Medicine, Palo Alto.

SUNDAY, FEBRUARY 21

Chapman Park Hotel

9:00—The Relationship of the Bactericidal Activity of Serum to Infection—Robert Roantree, M.D.

9:30—Immunity in Viral Infections—Aaron F. Rasmussen, M.D.

10:15—Cellular Mechanisms in Inflammation—W. Barry Wood, Jr., M.D.

Panel Discussion

11:00—Host Factors Related to Resistance to Infection.

Moderator: John M. Adams, M.D.

Panel: Robert Roantree, M.D., Aaron F. Rasmussen, M.D., and W. Barry Wood, M.D.

MONDAY, FEBRUARY 22

Oval Room, Ambassador Hotel

9:00—The Cause of Fever—W. Barry Wood, Jr., M.D.

9:45—Management of Fungal Infection—Victor D. Newcomer, M.D.

10:30—Infections Due to Anaerobic Bacteria—Sydney M. Finegold, M.D.

11:00—Management of Gram-Negative Bacillary Bacteremias—W. L. Hewitt, M.D.

11:30—Diagnosis and Management of Pyelonephritis—Lucien B. Guze, M.D.

TUESDAY, FEBRUARY 23

Oval Room, Ambassador Hotel

9:00—**Diagnosis and Management of Viral Respiratory Disease**—John M. Adams, M.D.

9:45—**Hospital Acquired Infections: Method of Spread**—Wiley F. Barker, M.D.

10:30—**Hospital Acquired Infections: Combatting the Problem**—Sydney M. Finegold, M.D.

Panel Discussion

11:00—**Rational Use of Antibiotic Agents.**

Moderator: William L. Hewitt, M.D.

Panel: Sydney M. Finegold, M.D., John M. Adams, M.D., and Victor D. Newcomer, M.D.

3. CLINICAL ENDOCRINOLOGY

Sunday, Monday and Tuesday Mornings, February 21, 22, 23

Los Angeles County General Hospital and Ambassador Hotel

Sponsored by California Medical Association Section on General Practice: Chairman, James S. Eley, M.D., Eureka; secretary, Floyd K. Anderson, M.D., Los Angeles.

Program planned by University of Southern California School of Medicine, Phil R. Manning, M.D., Associate Dean, Postgraduate Division.

Course Chairman: Donald W. Petit, M.D.

Time: Sunday, Monday and Tuesday, February 21, 22 and 23, 9:00 a.m. to 12:00 noon.

Fee: \$25.00.

8:00 a.m. Sunday—Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to Los Angeles County General Hospital.

Instructional Staff:

California Medical Association Guests:

Oliver Cope, M.D., Associate Professor of Surgery, Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts.

Albert Segaloff, M.D., Director, Division of Endocrinology, Alton Ochsner Medical Foundation, New Orleans, Louisiana.

University of Southern California School of Medicine: Franz Bauer, M.D., Associate Professor of Medicine.

Boris Catz, M.D., Associate Clinical Professor of Medicine.

Robert Commons, M.D., Assistant Clinical Professor of Medicine.

George Donnell, M.D., Associate Professor of Pediatrics.

Stanford Furer, M.D., Assistant Clinical Professor of Medicine.

Joan Hodgman, M.D., Assistant Professor of Pediatrics.

Bruce Kessler, M.D., Instructor in Medicine.

Robert Lowrey, M.D., Assistant Clinical Professor of Medicine.

Phil Manning, M.D., Associate Professor of Medicine.

Edward Merchant, M.D., Assistant Clinical Professor of Medicine.

Don Nelson, M.D., Associate Professor of Medicine.

Donald Petit, M.D., Associate Professor of Medicine.

Jud Scholtz, M.D., Clinical Professor of Medicine (Dermatology).

Dean Seofield, M.D., Instructor in Medicine.

Paul Starr, M.D., Professor of Medicine—Emeritus.

Richard Taw, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Robert Tranquada, M.D., Instructor in Medicine.

Bruce Walter, M.D., Instructor in Medicine.

Arnold Ware, Ph.D., Professor of Biochemistry and Nutrition.

Albert White, M.D., U.S.P.H. Service Trainee.

SUNDAY, FEBRUARY 21

8:00 a.m. Sunday—Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to Los Angeles County General Hospital.

9:00 a.m.-12:30 p.m.—Los Angeles County General Hospital

9:00—**Introduction: Growth Problems**—George N. Donnell, M.D., and Joan Hodgman, M.D.

10:00—**Case Demonstrations:**

Osteoporosis..... 1 group —15 min.

Thyroid..... 3 groups—45 min.

Pituitary..... 2 groups—30 min.

Adrenal..... 2 groups—30 min.

Genadal Abnormalities.. 2 groups—30 min.

The students will rotate every 15 minutes from patient to patient. The faculty will also rotate.

MONDAY, FEBRUARY 22

9:00 a.m.-12:00 noon—Regency Room, Ambassador Hotel

9:00—**Menstrual Irregularities**—Richard Taw, M.D., and Robert Commons, M.D.

9:30—**Diagnostic Problems in Thyroid Disease**—Boris Catz, M.D.

10:00—**The Nodular Thyroid**—Oliver Cope, M.D.

10:30—Recess.

10:45—**Thyroid Panel.**

TUESDAY, FEBRUARY 23

9:00 a.m.-12:00 noon—Regency Room, Ambassador Hotel

9:00—**Hirsutism**—Robert Commons, M.D., and Jud Scholtz, M.D.

9:30—**Oral Antidiabetic Drugs**—Robert Tranquada, M.D.

10:00—**Clinical Disorders of Sexual Differentiation**—Albert Segaloff, M.D.

10:30—Recess.

10:45—**Adrenal Panel.**

For Enrollment Application, see next page.

Scientific Exhibits

CASINO FLOOR

North End of Boulevard Room

Entrance through Bollroom

Maternal Mortality in California—California Medical Association Committee on Maternal and Child Care, James W. Ravenscroft, M.D., San Diego, Chairman; and State of California Department of Public Health, Bureau of Maternal and Child Health, Theodore A. Montgomery, M.D., Berkeley, Child Health Consultant.—A wall map of California will be displayed with counties shaded for population and marked with colored pins designating the different causes of maternal deaths such as hemorrhage, abortion, toxemia. In front of the wall map will be a miniature graveyard with divisions for each different cause of death and colored markers designating the number of deaths in each category.

Mechanical Assistance in Acute Heart Failure—Peter F. Salisbury, M.D., Burbank.—Relief of intensification of specific types of acute heart failure by various types of mechanical assistance will be illustrated. Drawings, photographs, charts and posters will be displayed as well as special blood pumps for mechanical assistance in acute heart failure.

Pelvic Pneumography—A Useful Adjunct to Clinical Examination—Richard S. Lee, M.D., G. Melvin Stevens, M.D., and John F. Weigen, M.D., Palo Alto.—The usefulness of this radiographic procedure as an adjunctive measure in light of the relative inaccuracy of bimanual pelvic examination will be demonstrated. Photographs, roentgenograms, charts and posters will be used.

Diagnosis of Acquired Heart Disease by Left Heart Catheterization—Jerome Harold Kay, M.D., and Robert Anderson, M.D., Los Angeles.—This exhibit will display typical left heart tracings of some common acquired valvular defects. Charts will show the approach and technique of left heart catheterization.

South End of Sunset Room

Entrance through Bollroom

Vasopressor Treatment of Shock—Eliot Corday, M.D., Beverly Hills; and John H. Williams, M.D., Jamaica Plain, Massachusetts, by invitation.—This exhibit will consist of three panels demonstrating by moulage, charts and posters the effect of shock and vasopressor drugs on the circulation of the heart, brain, liver, kidney and gastrointestinal tract.

Regional Perfusion in Cancer Therapy—Robert T. Hood, Jr., M.D., William H. Faeth, M.D., and Neal C. Hamel, M.D., Burbank.—Clinical and experimental results in the use of a pump oxygenator system for regional perfusion with cancericidal agents, and the effect of flow rate and pressure on "isolation" efficiency will be graphically shown by use of drawings, charts and posters.

Low Frequency Precordial Vibrations (Spectrosonograms)—Clarence M. Agress, M.D., Morris Wilburne, M.D., Martin Shickman, M.D., Los Angeles; Louis G. Fields and Stanley Wegner, by invitation, Los Angeles.—Methods of recording spectrosonograms, their application in cardiac diagnosis, and use in assessing myocardial function will be shown by means of photographs, charts and posters.

APPLICATION FOR ENROLLMENT

Mail to: POSTGRADUATE ACTIVITIES, CALIFORNIA MEDICAL ASSOCIATION
2975 Wilshire Boulevard, Los Angeles 5, California

With check or money order in the amount of \$25.00 made payable to the CALIFORNIA MEDICAL ASSOCIATION. Check the course you plan to attend.

Name _____

Address _____

I am in General Practice _____ I limit my practice to _____

Medical School Attended _____ Year of graduation _____

- ☐ 1. Minor Surgery in the Office (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 2. Infectious Diseases (9-hour course, Sunday, Monday and Tuesday mornings)
- ☐ 3. Clinical Endocrinology (9-hour course, Sunday, Monday and Tuesday mornings)

WOMAN'S AUXILIARY to the CALIFORNIA MEDICAL ASSOCIATION

Thirtieth Annual Convention, February 21 to 23, 1960

Headquarters: Ambassador Hotel, Los Angeles



MRS. THEODORE A. POSKA, President



MRS. SAMUEL GENDEL, President-Elect

Convention Chairman: MRS. ARTHUR T. BAILEY

REGISTRATION

Main Lobby

Sunday, February 21—9:00 a.m. to 4:00 p.m.

Monday, February 22—8:30 a.m. to 4:00 p.m.

Tuesday, February 23—8:30 a.m. to 10:00 a.m.

SATURDAY, FEBRUARY 20

7:30 p.m.—Annual Report of the Woman's Auxiliary by the President, Mrs. Theodore A. Poska, to the California Medical Association House of Delegates, Embassy Room. All doctors' wives are invited to attend. (Auxiliary members will not register for this meeting. Woman's Auxiliary Registration will start Sunday morning in the Main Lobby.)

SUNDAY, FEBRUARY 21

9:00 a.m.—Executive Committee breakfast meeting, Oval Room E.
2:30 p.m.—Pre-Convention Board Meeting, Grove Lounge.
7:00-8:00 p.m.—California Medical Association Reception honoring Doctor T. Eric Reynolds, President of the California Medical Association, and Mrs. Theodore A. Poska, President of the Woman's Auxiliary to the California Medical Association, Regency Room. (By invitation.)
8:00 p.m.—Presidents' Dinner and Ball honoring the Presi-

dent of the California Medical Association, Dr. T. Eric Reynolds, and the President of the Woman's Auxiliary to the California Medical Association, Mrs. Theodore A. Poska, Coconut Grove. Formal dress optional.

MONDAY, FEBRUARY 22

9:00 a.m.—First Business Session of the 30th Annual Meeting, Embassy Room. Mrs. Theodore A. Poska, presiding.
2:15 p.m.—Second Business Session, East Venetian Room.

TUESDAY, FEBRUARY 23

9:00 a.m.—Third Business Session, Embassy Room. Mrs. Theodore A. Poska, presiding.
12:45 p.m.—Luncheon in honor of Mrs. Theodore A. Poska and Mrs. Samuel Gendel; Members of the State Advisory Board, and Past State Presidents, Coconut Grove.
3:00 p.m.—Post-Convention Board Meeting, Grove Lounge. Mrs. Samuel Gendel, presiding.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

Eighty-ninth Annual Session CALIFORNIA MEDICAL ASSOCIATION Los Angeles, California FEBRUARY 21*-24, 1960

HOTEL ROOM RATES†

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*February 20: House of Delegates will start with evening meeting Saturday, February 20.

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION

693 Sutter Street

San Francisco 2, California

Please reserve the following accommodations for the 89th Annual Session of the California Medical Association, in Los Angeles February 21-24, 1960. (House of Delegates members: First meeting of House begins Saturday evening, February 20.)

Single Room \$..... Twin-Bedded Room \$.....

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Officer?..... Delegate?..... Alternate?.....

Name.....

County.....

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PROGRAM AND REPORTS

CLINICAL-PATHOLOGICAL CONFERENCE

(Continued from Page 13)

her previous complaints of cramping abdominal pain, diarrhea, burning epigastric pain and dysphasia.

Physical examination was not unusual and laboratory work showed again a normal total protein, amylase of 84 per cent, and normal calcium and phosphorus. The fasting blood sugar was not done. The uropepsin value was 1.23 log units per hour which was stated to be the highest recorded in that laboratory at that time. This was 8 months after the subtotal gastrectomy.

On April 28, 1953 she had a transthoracic vagotomy through a left thoracotomy incision and the operative notes state specifically that both major trunks of the vagus nerve were cut.

On May 6, the second gastric analysis in her hospital course was done and showed no free acid, and 42 clinical units of total acid before histamine. It was now 9 months after her subtotal gastrectomy. The postoperative course was uneventful and she was discharged.

She was seen again December 4, 1953 to February 8, 1954. She had lost weight, from 92 to 76 pounds, and complained again of diarrhea to the extent of 12 loose stools per day. The stools contained food which she had ingested within the past hour or two.

She continued to have the burning epigastric pain which was relieved by food. Physical examination at this time was unchanged with the pigmented lesion still present, the clubbing still present and an essentially negative abdominal examination. The blood pressure was 60/44, laboratory work showed reversal of the A-G ratio with a total protein of 4.2. Fasting blood sugar was 67, calcium 7.5. The uropepsin was .4914 log units and she had no gastric free acid. This was 15 months after her subtotal gastrectomy.

On December 16, after gastrointestinal examination had showed a jejunocolic fistula she was again operated upon. No mention is made in the operative note of the pancreas, but it is stated that no marginal ulcer was felt. The jejunocolic fistula was taken down. Her postoperative course was again complicated by episodes of tetany, wound infection, and vomiting.

On January 8 she was found to be markedly obtunded and febrile. Physical examination on this occasion, as on previous occasions in the similar state, was unremarkable except for the fact that she was obtunded. For the first time no definite cause could be found as all laboratory examinations were within normal limits. She responded to symptomatic treatment but the diarrhea and vomiting persisted.

On January 26 gastrointestinal examination revealed obstruction of the distal transverse colon and question of fistula. On January 27, six weeks after the first fistula had been repaired, she was again explored and a jejunal ulcer was found immediately opposite the gastrojejunostomy stoma. This led into the transverse colon. In addition there was a jejunal ulcer distal to this point which led into a blind pocket. The previous sites of fistula repair were not involved. The pancreas was not involved. The entire area was excised, removing en bloc the gastrojejunostomy together with the fistula to the transverse colon, and an end-to-end jejunal-jejunostomy was done and a posterior gastrojejunostomy was reinstituted, and the transverse colon was brought out to the abdominal wall as a double-barreled transverse colostomy.

Following this operation she became febrile, obtunded and her course was rapidly downhill, with a bloody oliguria of 150 to 200 cc. per day. She developed anasarca with rising potassium and nonprotein nitrogen and expired quietly on February 8, 1954.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

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KEY TO ABBREVIATIONS USED

(Or.)—Original Article; (Ed.)—Editorial; (CMA)—California Medical Association; (CR)—Case Report; (I)—Information; (LE)—Letters to the Editor; (PE)—Page End; (MJ)—Medical Jurisprudence.

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CANCER COMMISSION
CALIFORNIA MEDICAL ASSOCIATION

PRE-CONVENTION CONFERENCES

LOS ANGELES • SATURDAY, FEBRUARY 20

Radiology

West Venetian Room, Ambassador Hotel

Chairman Merrell A. Sisson, M.D., San Francisco

Secretary D. J. Sayles, M.D., San Diego

DIAGNOSTIC SESSION—9:30 a.m. to noon

Twelve diagnostic cases with histories and films will be presented. Cases have been selected to illustrate specific problems in the radiological and clinical diagnosis of cancer. Audience participation and discussion are urgently requested.

THERAPY SESSION—2:00 p.m. to 4:30 p.m.

Five cases with specific therapy problems will be presented. The audience is asked to participate actively.

Pathology

9:15 a.m. to noon • 2:00 p.m. to 4:30 p.m.

East Venetian Room, Ambassador Hotel

Moderator: GEORGE J. HUMMER, M.D., Santa Monica

The Pre-Convention Conference on the Lymphomas will be conducted under the chairmanship of Frank R. Dutra, M.D., Castro Valley.

Members who wish to attend this conference are requested to register now with Weldon K. Bullock, M.D., Registrar, Tumor Tissue Registry, C.M.A. Cancer Commission, Los Angeles County Hospital, 1200 North State Street, Los Angeles 33.

7:00 p.m.

Dinner meeting of the California Society of Pathologists. For reservations contact Ernest Simard, M.D., Secretary, 708 Cass Street, Monterey.

Cancer Commission Dinner

6:30 p.m.—Frenchette Room

Annual Dinner Meeting of the Cancer Commission and Advisory Committee.





